APPENDIX D – SFPD ABIS TECHNICAL AND FUNCTIONAL REQUIREMENTS MATRIX

Introduction:

This requirements matrix is provided to assist the Offerors with the best possible understanding of the Mandatory (Required) and Desired (Optional) characteristics of the multiple components of the SFPD Identity Solution Vision. SFPD is aware that requirements duplicate and in some cases overlap, including compound requirements. SFPD has attempted to provide a basis rich enough to allow vendors to highlight the advantages of their product by identifying performance across a broad spectrum of what is available. SFPD is also aware that some solution approaches may obviate the need for a particular requirement. Offerors are welcome to document comments or recommended changes to these requirements through the Question & Answer process.

For each of the Mandatory (designated by the Letter M) and Desired (Designated by the letter D) capability requirements specified in this section Offerors shall follow the instruction as outlined in the first section and respond whether the proposed ABIS solution meets the identified requirement and the corresponding CLIN for which the Offeror proposes to deliver the functionality.

The SFPD ABIS RFP supports the ability for Offerors to propose a 'baseline' solution for a specific function **and** identify the additional cost and schedule for the delivery of additional (Desired) functionality via the 'Enhancement, Optional, Expansion CLINs. This approach provides Offerors the advantage of bidding only Mandatory Requirements for the 'baseline' solution thereby promoting a fair competition. Offerors may elect to include additional Desired Requirements in their 'baseline' proposal and receive additional score in the evaluation process.

1.1 PROPOSER RESPONSE INSTRUCTIONS

Please follow the instructions below to allow a uniform evaluation of the proposals. In responding to the requirements located in the section 2 tables, the following columns' labeled codes must be used. Please place one "**X**" under the appropriate response code column for each of the requirements

Response Code	Definition
SFPD Requirement	**M =** Mandatory Requirement; 100% compliance will be given the highest evaluation score. **D =** Desirable requirements, the more % compliance will be given higher evaluation score, or a number of them may be bundled into the optional upgrade CLIN increments.
Y (Yes)	Requirement will be met 'out of the box' **without** configuration, customizations or modifications (see definitions below) to the existing application or report. The functionality must be installed and operational at other sites and can be demonstrated to the SFPD-FSD.
N (No)	The functionality identified in the requirement will not be provided.
G (Configuration) **C (Customization)** **M (Modification)**	The requirement will be met by Confi**g**uration, **C**ustomization or **M**odification: **G = Configuration** - The requirement will be met through changes to setting of tables, switches, and rules without modification to the source code. Include any changes to the existing or 'out of the box' workflow functionality. **C = Customization** - The requirement will be met through changes to the existing reports or programs. This would include custom code developed to perform specific functions or validations outside the standard code. Include the creation of a new report, query or workflow that does not exist within the current application. **M = Modification** - The requirement will be met through changes to the source code which would require analysis and re-application during updates, upgrades, or when applying software patches.

	Note: For each of the codes **G**, **C**, and **M** in the comments column next to this response, you must indicate the following: - Description of customization - Party who will perform the work (Agency or Proposer) - Estimated level of effort involved in hours - Estimated level of complexity (High, Medium, Low)
3 (Supplied by Third Party)	Requirement will be met by third-party software package and is included in this proposal. Note: In the Comments column, indicate the name of the proposed third-party software package and indicate the interface/integration services being proposed.
F (Future)	Requirement will be met by packaged software that is currently under development, in Beta test, or not yet released. Note: In the Comments column next to this response, indicate the date when requirement will be available for implementation. If possible, also indicate any additional costs.

Note:

1. An omitted response will be assumed to be the same as a response code of "N".

2. Only one (1) response per requirement will be accepted. Multiple responses will be re-coded at the discretion of the Agency

3. Any deviation from the response codes will be re-coded at the discretion of the Agency.

4. Due to the large number of requirements, and dividing the entries into various categories/CLINS there exists a possibility of repeated, similar, or closely similar requirements. The evaluation score will be on the all the responses to all entry including these possible duplicates.

1.2 TECHNICAL AND FUNCTIONAL REQUIREMENTS

Ite m #	CLIN #	Requirement	SF PD Re q	One Response Per Requirement (Vendor Use Only)					Comments
			M D	Y	N	G C M	3	F	
		Requirement Type – Systems Requirements							
1.	1/2	The ABIS workflow and business rules shall be flexible to fully support SFPD' legal and/or policy requirements, which may change, as well as the expansion and/or changes to SFPD' identification workflow and business rules. San Francisco and CAL/DOJ's legal and/or policy requirements require the suppression of some records from search results, and also the expiration of Latent cases due to the respective crime's statute of limitations. Not crisp enough.	D						

2.	1/2	Privilege capability which specifies user privileges including configuration parameter change authority a. Privileges for system operator with authority to change configuration parameters b. Privileges for Supervisors to change operational parameters etc	D							
3.	1/2	The vendor shall provide an ABIS solution with configuration items that may be changed by SFPD operators to cause a respective system change without a system downtime, or emptying of queues. Configuration items shall include, but not be limited to, the following system parameters or settings that have modifiable value to allow respective processing or related edits to change without the requirement for a software/code change. There shall be at minimum a parameter for each of the following items: a. whether or not a technician must review/confirm all automatic system determination for fingerprint patterns b. whether or not a technician must assign fingerprint patterns to fingerprints for a transaction before a Tenprint search c. whether or not a technician must review/confirm all system determined/suggested composite target image substitution d. whether or not a technician must review/confirm all automatic image quality ratings other than that of a good print e. whether or not a technician must assign image quality rating for each finger for a transaction before a Tenprint	D							

		search								
		f. for whether or not images are automatically sent for quality review after image coding								
		g. for any threshold(s) used in searching								
		h. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Tenprint searches utilizing a system threshold,								
		i. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Tenprint searches performed without a system threshold,								
		j. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Latent fingerprint,								
		k. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Latent palm print searches								
		l. the number (1 or 2) of verifications required to finalize a Tenprint search that has at least one suspect that has been identified as a hit by a verification operator								
		m. The number (1 or 2) of verifications required to finalize a Tenprint search that has no suspects identified as a hit by a verification operator.								
4.	1/2	The ABIS shall support separate Latent fingerprint and Latent palm print processing configuration parameters defined by the	D							

		latent print examiner or the supervisor. Items shall include, but not be limited to, the following: a. Threshold Activation: The ability to turn off the ABIS scoring threshold to allow a configurable number of top candidates to return in the search result candidate list. b. Maximum Number of Candidates to be returned for comparison on a Latent search. c. Number of Latent Print Examiner verifications required to finalize the results of an evaluated Latent print search. d. A default setting for the city or county (San Francisco or the San Mateo County) search filter.							
5.	1/2	The ABIS shall include an audit capability. This audit system will store the associated data for both Latent (both fingerprint and Palmprint) and Tenprint processing for periodic reports, adhoc reports and analysis needs. This capability shall have a configurable retention period with an initial retention of 50 years. The audit capability and production of auditing reports shall not degrade identification system performance. Not at all clear. It has to use resources, so it has to degrade. Audit information shall include processing information, as noted below, and appropriate dates and times involving: a. Transaction identification (IP address of source, transaction/case/SF#, any search id) b. Modifications (field identifier, before and after values, technician id), c. Error/rejection (types, values, technician id), d. Searches (types, such as auto process/ technician request; parameters used; technician id), e. Purge requests (TCN or SF#, technician id),	D							

		f. Transaction Processing Times for all stages/queues (stage/queue name, date started/ended, time(hour/minutes/second) started/ended, time elapsed for each stage),
		g. Search results (candidates, ranking/scoring information, Name Search/Tech Search/Both Search indicators),
		h. Technician determinations (manual patterns/quality, plain to roll/palm to palm/roll to roll substitution, technician id),
		i. System Processing, including Actions, Technician ID, Parameters and Results for:
		  • sequence check results,
		  • segmentation results,
		  • rejections,
		  • auto patterns/quality/topological assignment,
		  • minutiae assignment,
		  • fingers used for a search,
		  • sure hit determination,
		  • candidate elimination,
		  • SF#/image verification and validation results,
		  • composite substitution,
		  • multiple incident record creation,
		  • multiple incident record modification,
		  • multiple incident record substitution,
		  • Individual fingerprint quality rating score (if applicable)
		  • Automatic pattern updating,
		  • manual pattern updating
		  • User Administration System creations, deletions, modifications (userid of administrator, userid of subject, before and after values),
		
		  • CCH/CABLE reject request.							

6.	All	The Offeror's/Prime Offeror's software solution shall support SFPD' need to retain audit records for periods no longer than 50 years.	D						
7.	All	The offeror shall provide hardware and software products that will automatically handle the transition for Daylight Savings Times and any legislated changes to Daylight Savings Times.	D						
8.	All	The Offeror shall encrypt all SFPD data, residing or in communication outside the SFPD internal network, with a minimum 128 AES encryption. This includes backup media, file transfers and external sites. SFPD shall be given all cryptographic keys used involving SFPD data and systems.	D						
9.	1/2	ABIS shall process TP/ULF searches without affecting the processing of the related Tenprint transaction in the following way? The SF# associated with the TP record shall not be blocked from other Tenprint processing while the TP/ULF search results are awaiting completion of verification. This requirement shall be incorporated in the interface to the SFPD CCH/CABLE where the SF# is generated.	D						
10.	All	ABIS shall have the capability to reconcile sub-systems for data integrity purposes. In other words, and for example, the same target SF#s shall be in all related databases and files and such key data shall be consistently maintained. Separate these things like all data integrity together	D						
11.	1/2	The ABIS workstation and user interface shall allow for use of bar code readers to eliminate redundant data entry for processing, where appropriate. Examples include, but are not limited to: SF# and TCN.	D						
12.	1/2	The ABIS shall provide for the addition of new demographic and biographic identifiers to the ABIS for candidates and search filter criteria.	D						
13.	1/2	The ABIS solution shall provide for minutia editing of images to improve search accuracy.	M						
14.	1	The Identification Technician shall have the ability to re-launch a sequence check after an error has been resolved. An error is	D						

		resolved with a correction made by the Identification Technician at the ABIS workstation. That correction will place images in their proper sequence.							
15.	1/2	Identification Technicians and Latent Print Examiners shall have the ability to print, to a printer, a candidate search list. This print capability shall be incorporated in the Offeror software.	M						
16.	All	The ABIS hardware shall be network enabled at a minimum speed of 1 Gbps Fibre Channel for servers and a minimum speed of 1 Gbps Ethernet for workstations.	D						
17.	1	The ABIS shall be capable of holding at least 1000 work-in-process Tenprint transactions. Each transaction may have text and image data such as, but not limited to, 10 rolled finger image records, 4 plain finger image records prior to segmentation and 10 image records after segmentation, and up to 8 palm print image records.	D						
18.	1/2	System alerts shall be generated as held work-in process transactions approach 80% capacity.	D						
19.	1/2	The ABIS shall be capable of preserving records and all associated data for work-in- process transactions in the event that Tenprint and/or Latent workstation operations, database, or other related functions/services are down or unconnected to SFPD or within ABIS, for a specific time period. These records shall then be automatically available for continued processing when service is restored.	D						
20.	All	After any break in processing, resumed processing shall automatically work on transactions in an order selectable by priority.	D						
21.	1/2	The ABIS shall be capable of holding at least 1000 work-in-process Latent transactions.	D						
22.	1	ABIS shall retain for each individual in the target database a composite record of the best images for each of the twenty fingerprint images (ten rolled and ten plain).	M						

23.	1	ABIS shall retain for each image, a TCN, transaction source type and plain /roll indicator associated with each image. This composite record is to be continually evaluated and updated as necessary when new transactions are identified against an SF#. When a SF# has only one event, the images for that event will be contained in the composite record.	M						
24.	1	The ABIS shall retain for each individual in the target Tenprint database, the three most recent transactions' fingerprints (plain and rolled). These are referred to as Multiple Incident Records (MIR) in this RFP. A MIR record will not exist when a SF# has only one event, as the images for a single event will reside in the composite record.	M						
25.	2	The palm print record shall include up to 8 palm print images. Palm print records received or existing at SFPD, come from various original sources and each may have a different number of images per record.	M						
26.	1/2	The ULF File shall include the following, at a minimum: • Latent Case Number; • Latent Search ID; • Latent Print Characteristics; • Latent Print Image ID; • Image Quality; • Race; • Sex; • Pattern; • Age; • Age Difference/Tolerance; • Crime Type; • Crime Date; • Creation Date; • Expiration Date; • Tickler Date;	D						

		• Contributor ORI (San Francisco or San Mateo, or other agencies allowed to submit to SFPD ABIS); • Original Examiner ID (of examiner that added the entry); • Assigned Examiner ID (of examiner that owns the UL Case); and search filters. • Physical Address of Latent • Item from which Latent recovered • Latent of Patent • If Patent, what substance • Technique(s) used to develop latent								
27.	All	When any data is deleted from any database or file, the space shall be automatically available for reuse.	D							
28.	all	A GUI monitoring system (System Administration Application) that displays all transaction information shall be available for all Identification Technician and Latent Print Examiner Supervisors over a secure TCP/IP thin client. This service shall be available from SFPD and San Mateo supervisors' personal computers and easily accessible. These monitoring screens shall auto refresh at specified intervals and refresh by request.	D							
29.	All	The GUI monitoring system shall be accessible from SFPD and other supervisors' personal computers that shall provide information that includes, but is not limited to: • A one page view of transaction counts for all queues; • From the one page view, the ability to select a specific queue to display TCNs for all transactions in process, and status and historical information for an individual transaction, when selected; This historical information shall include, but not be limited to: • Identification Technicians' userids; • Contributor ORI; • Total elapsed time for each queue; • Total time idle in each queue;	D							

		• Total time spent working on an individual transaction in a particular activity								
30.	All	The GUI monitoring system shall have user selected or designated filtering and or sorting capability for displaying transactions, based on, but not limited to these transaction data fields: • Identification Technician, • Status, • Work Queue, • Priority (by one or more selectable priorities), • Creation Date/Time, • Contributor ORI, • Transaction Identifier (TCN).	D							
31.	All	The system shall have the ability to purge transaction(s) in work queues based on • Identification Technician, • Status, • Work Queue, • Priority (by one or more selectable priorities), • Creation Date/Time, • Contributor ORI, • Transaction Identifier (TCN).	D							
32.	1/2	The Offeror shall propose an ABIS capable of direct communication with the SFPD Computerized Criminal History (CCH)CABLE system	M							
33.	all	The Offeror shall provide the following user interface features and functions for Work Queue information: • Adjust the column widths; • Hide columns; • Sort ascending or descending on any of the columns; • Filter a column based on a specific value or range of values;	D							

		• Remove transactions from present display based on group selection; • Refresh the display of the Work Queue per selectable time limit; • Filter the Work Queue using wildcard and character substrings; • Cancel filtered ranges; and • The ability to find a specific transaction in the work queue by Latent File Number, Latent Search ID, TCN/SF#, Contributor ORI, or other work queue parameters							
34.	All	ABIS workflow shall include the sending and receiving of messages meeting NIST standards between ABIS and SFPD Store and Forward and the CCH/CABLE. If NIEM XML standards are defined and approved for the FBI/CJIS EBTS V8 Part 2 at contract time, the use of NIEM XML will require the approval of SFPD.	D						
35.	3	A one, two or four finger flat verification function and device is required. This functionality shall support wired applications, and shall include verification confinement/custodial control (i.e. correctional institutions). This device shall be capable of inputting a SF# number which will then retrieve from the ABIS the images and minutiae to be compared to up to two input images collected at the remote site. This device shall also be capable of performing an image quality check prior to submission to determine if quality is too low for search and require Identification Technician to do manual checking with SFPD. This function shall return and display a comparison result of either a "yes", "no" or "inconclusive". (See Sections on DRI)	D						
36.	All	The Offeror proposed solution shall include a product, package or other means for the Offeror to produce configurable reports. Also, this solution will allow for SFPD' ad hoc reporting.	D						
37.	all	With the proposed solution, all images and associated data shall be the property of SFPD. The Offeror solution shall provide a	M						

		means for direct access to all images and associated data in non-proprietary format for use.							
38.	All	The Offeror shall provide an ABIS solution that allows for updates to critical parameters / values without system downtime. The parameter / value update solution may be used for Tenprint and / or Latent processing and shall include, but is not limited to, the following: • Add, modify or delete parameters / values • Respective Pattern comparison values • Error values/reasons which can be selected by the automatic and/or manual processes for a transaction in Tenprint processing • Specific automatic sequence errors, denoted by SFPD, which would require workstation review in Tenprint processing. Such errors may include transposed fingers, transposed hands, and duplicate rolled fingers.	D						
39.	1/2	For 500 ppi fingerprint and palm print images, the Offeror shall comply with FBI-EBTS image quality specifications and shall maintain images compressed to a maximum average ratio of 15:1 using Wavelet/Scalar Quantization (WSQ) algorithm. For 1000 ppi fingerprint and palm print images, the Offeror shall comply with FBI-EBTS image quality specifications and shall maintain images compressed to a maximum average ratio of 15:1 using JPEG 2000 algorithm.	M						
40.	All	The system shall provide an error response to the user if the user inputs a number larger than the system is configured to accept for priority.	D						
41.	All	The error response for priority shall provide the user an indication of the allowable values for priority	D						
42.	All	The system shall send an error message to the AFIS Administrator when an error occurs during search processing	D						

43.	All	The system shall provide an indication of what stage of processing the error occurred in	D						
		System Configurability							
44.	All	The system shall provide the capability to configure a workstation into a default condition that places the image being searched on the same side of a split screen for each search	D						
45.	All	The system shall provide the capability to allow Properly Permitted Users to override the default setting and allow Permitted Users to select which side of the screen to use for displaying the search image	D						
46.	All	The system shall provide the capability to configure workstations into specific classes with specific capabilities.	D						
47.	All	The system shall provide the capability to allow the following classes of workstations: Ten Print Verification, Ten Print Search, Latent Encoding, Latent Verification, Image Quality Checking, Exception Handling, Authentication, Livescan Submission.	M						
48.	All	The system shall provide the capability to configure a workstations into a default class.	D						
49.	All	The system shall provide the capability to allow each workstations to be capable of performing all functions in any of the workstation classes.	D						
50.	All	The system shall provide the capability to allow a workstation to perform functions outside of its default class when and only when a Permitted User logs on the workstation.	D						
51.	All	The system shall provide the capability to automatically allow a Permitted User to perform any function that is permitted to the user after completion of logging onto the workstation.	D						
52.	All	The system shall provide the capability to allow Properly Permitted Users to create lists of Permitted users for individual workstations and classes of workstations.	D						

53.	All	The system shall provide the capability to allow Properly Permitted Users to modify, add, or delete lists of Permitted users for individual/classes of workstations.	D						
54.	All	All workstations and the system shall provide the capability to maintain a list of Permitted users for each class of workstation.	D						
55.	All	The system shall provide the capability to authenticate users at logon.	D						
56.	All	The system shall provide the capability to link user ID, date, and time of entry to any data saved for the user.	D						
57.	1/2	The system shall provide the capability to allow Permitted Users to display any type of print (finger, palm, latent) at any workstation	D						
58.	All	The system shall provide the capability to allow Permitted Users to display images from the ABIS Database image storage at any workstation.	D						
59.	1	The workstation shall provide the capability to allow Permitted users to display any fingerprint card at its original scale.	D						
60.	All	All workstation shall provide the capability to display, receive and send images in the following formats: WSQ, TIF, GIF, JPEG AND JPEG 2000	D						
61.	All	For the images at 500ppi the WSQ default compression ratio shall be a configurable parameter.	D						
62.	All	For the 500ppi images the system shall provide the capability to automatically recognize WSQ compression ratio on images and automatically decompress WSQ compressed images at the correct ratio.	D						
63.	All	The system shall provide the capability to allow Permitted Users to print any information displayable at any workstation.	D						
64.	All	The system shall provide the capability to print any image at its original scale.	D						
65.	All	The system shall provide the capability to allow Permitted users to select a specific printer for output.	D						

66.	All	The system shall provide the capability to log all actions performed at a workstation.	D						
67.	All	Each workstation shall allow the operator to control the time to screen saver initiation.	D						
68.	All	Time to screen saver initiation shall not be permitted to exceed Maximum Screen Saver Initiation Time.	D						
69.	All	Maximum Screen Saver Initiation Time shall be a configurable parameter.	D						
70.	All	Each workstation shall allow the operator to control the time to automatic log out.	D						
71.	All	Automatic log out time shall not be permitted to exceed Maximum Logout Time.	D						
72.	All	Maximum Logout Time shall be a configurable parameter.	D						
73.	All	All workstation shall collect performance data on users.	D						
74.	All	Performance data shall be configurable.	D						
75.	All	The system shall provide the capability to include print quality, number of submissions, number of identifications, as performance data.	D						
76.	All	All workstation shall provide the capability to report user performance data to system.	D						
Requirement Type – Tenprint Requirements									
77.	All	ABIS shall use the priority setting specified in the incoming transaction to set the priority of the transaction for processing.	D						
78.	All	The Offeror shall provide the ability to override the order of priority precedence for one or more transactions to meet the service delivery objectives.	D						
79.	1/2 /7	The Offeror shall maintain an ongoing conversion function as part of the Production system for batch updating of electronic fingerprint images, palm print images and associated data for an existing SF#. Batches may contain only fingerprint images; palm	M						

		print images, or facial mugshot images with the associated data. This shall include batch processing for additional conversion after the initial conversion phase has been concluded and the ABIS is in Production.							
80.	All	The ABIS shall enable an Identification Technician to reject a transaction at any time during the pre-search process. A message shall be sent back to the supervisor at SFPD with, at a minimum, the following information: • Rejection reason(s) • Date/time of rejection • TCN	D						
81.	All	The ABIS shall accept a purge request at anytime throughout the process. At the time of the purge request, all processing of the transaction shall conclude.	D						
82.	All	The SABIS shall enable an Identification Technician to modify a transaction during the pre-search process. These modifications shall include, at a minimum, the following information: • Manually assigned patterns • Selection/De-selection of Rejection reason(s) • Visual /coder qualities • Minutiae editing • Plain to roll or roll to roll replacement • Comment	D						
83.	1	The Offeror shall propose a ABIS capable of performing different types of Tenprint to Tenprint searches using from 1 to 10 fingers, such as, system initiated transaction searches; Identification technician initiated searches; self searches; and off-line searches. The number of fingers for system initiated transaction searches would be based on the Offeror's/Prime Offeror's requirement to attain the stated accuracy rates. Identification Technician initiated searches would be based on the Identification Technician's selection of any finger and any number of fingers. In an off-line search, the acquisition may be from 1 to 10 fingerprint images.	M						

84.	1	The Tenprint identification process shall initially search, at a minimum, the rolled composite images.	M						
85.	1	ABIS shall be able to process and identify Tenprint transactions that are ABIS Update Ineligible. These transactions shall not add the fingerprints to the Tenprint database or update to a composite record.	M						
86.	1	The ABIS shall have the ability to mark fingerprint images from the current Identified transaction as potential substitution in the composite record for the individual. The ability shall be provided both automatically by the ABIS and manually by an Identification Technician. A selectable option for transactions automatically marked by the ABIS shall allow an Identification Technician to confirm the substitution and possibly switch individual rolled or plain fingerprint identification images before confirmation. This confirmation shall take place at the end of the identification process before an update takes place.	D						
87.	All	ABIS shall support image resolutions of both 500 and 1,000 ppi in all aspects of capture, processing and archiving, both internally (in-house capture equipment) and externally (contributor Livescan devices).	M						
88.	All	In the event that industry trends move beyond 1,000 ppi, the system shall be able to be upgraded to accept greater than 1,000 ppi images.	D						
89.	All	The ABIS shall have the ability to present side by side view of acquired fingerprint image(s) and the images for an entered target SF#.	M						
90.	1	The ABIS shall have the ability to search the target Tenprint database based on image(s) acquired by an Identification Technician. This transaction will not result in an update to the target database.	D						
91.	0	The ABIS shall have the ability to process hard copy cards. This scenario shall include FBI certified equipment that allows for the manual capture of fingerprint images, palm print images, and	D						

		appropriate data. The manual capture device shall allow for the capture of fingerprint images and palm print images with no degradation of the images. This capture shall conform to the IAFIS Image Quality Specifications provided in Appendix F of the CJIS Electronic Biometric Transmission Specification, which can be found on the FBI web site at: http://www.fbibiospecs.org/fbibiometric/docs/EBTS %20V8.002%2010-24-07.pdf							
92.	0	Hard copy acquired fingerprint transactions must be formatted in the specified format that will be required by SFPD NIST record format. (Should the XML NIEM message format for this type of message be defined and agreeable to both SFPD and the Offeror, then that format may be applied for this message.	D						
93.	2	The ABIS shall have the ability to acquire and update SF# associated hard copy palm print images at 1,000 PPI which are not associated with a Tenprint Identification transaction.	D						
94.	1/2	ABIS shall not automatically reject the Tenprint transaction if the related Palm Print images are designated as poor quality.	M						
95.	1	ABIS shall store for Tenprint transaction processing the following results, which will be available via an immediate TCN inquiry through a GUI: • Pattern and quality assignment values(manual and automatic), date/time, • and Identification Technician userid • Topological mapping, if used in the Offeror's/Prime Offeror's solution • Automatic sequence check information • Encoding information, such as scores (if used) • Errors detected during automatic system checks (i.e. pattern mismatches, segmentation/sequence errors, quality problems) • Identification Technician's problem resolution information (i.e. pattern changes, image manipulation such as roll to	D						

		roll or slap to roll image switch, and minutiae editing, as well as date/time of resolution and Identification Technician userid)							
96.	1	The ABIS shall perform auto-class pattern classification. The system shall compare auto-class patterns with manually assigned patterns to determine mismatches.	D						
97.	1	The ABIS shall automatically code and flag poor quality fingerprint images.	M						
98.	2	The ABIS shall automatically code and flag poor quality palm print images.	D						
99.	1	The ABIS shall automatically segment plain fingerprint images.	M						
100.	1	The ABIS shall automatically perform fingerprint sequence checking.	M						
101.	2	Palm print encoding, quality checking, and sequence checking shall be performed and noted in the ABIS results on all palm prints, where applicable. Automatic sequence checking shall ensure that palm prints are in the proper position (i.e. the left palm in the left palm capture box) and associated with the correct hand (i.e. using a finger for verification, when available). Fingerprint transactions shall not be forced for manual review/ Post Encoding/Quality Control for problems detected solely with palm print images.	M						
102.	All	The ABIS shall accept SFPD Transaction Requests identified by TCN, sent via SFPD (CCH)CABLE.	D						
103.	1	The ABIS shall process and merge candidates for Tenprint verification as follows: • Name search candidate SF# numbers, submitted from the SFPD (CCH)CABLE System, with a name search score below a SFPD defined high name search score, shall be eliminated by ABIS based on a comparison of the candidate's fingerprint patterns with a corresponding transaction's assigned pattern classification.	D						

		• Any name search candidate whose fingerprint patterns are not considered a match with the transaction's patterns will not be sent for verification. • A technical search is launched by the ABIS and the suspects returned for verification are merged with the suspect list resulting from the name search candidate/transaction pattern comparison, plus field hit and number hit SF# candidates. • Name search candidates with a name search score that is equal to or greater than a SFPD defined high name search score; field hit; and number hits are SF# candidates that are all submitted from the (CCH)CABLE and are included in the candidate list for verification but are NOT subject to pattern comparison. • This merged candidate list is sent for verification. The merged candidate list shall be displayed for verification in the order of most likely to least likely match, with duplicate candidates only appearing once. • The most likely candidate matches are where a candidate is from both the technical search (above threshold) and any other type list. • A name search candidate whose name search score is below a SFPD defined high name search score, is considered a potential match to an input fingerprint transaction when there is a match of fingerprint patterns to nine of ten respective fingers between the name search candidate and the input fingerprint transaction. This potential match scenario described above results in a filtered name search candidate. Fingerprint patterns are considered a match when; • the fingerprint patterns are an exact match, or • any primary pattern or reference pattern of a search candidate finger matches any primary pattern or reference							

		pattern of an input finger, or • a search candidate fingerprint pattern or an input fingerprint pattern is equal to the value of a missing finger, or • A search candidate fingerprint pattern or an input fingerprint pattern is indeterminable.								
104.	1	If a Name search candidate is eliminated based on the pattern comparison rules, results of the eliminated candidate returned to SFPD are, at least: • TCN • SF# • Pattern Eliminated Indicator	D						
105.	1	The ABIS shall have a technical search with thresholding. This search matches the characteristics of the incoming fingerprint images to those on the target database and when the images of a target database SF# match the input image above a predefined SFPD threshold, the associated SF# is produced as a candidate.	D						
106.	1/2	If an identification is a "Sure Hit", the identification results of the candidate returned to SFPD are, at least: • TCN • SF# • Sure Hit Indicator • ABIS score	M						
107.	1	The ABIS shall allow for one or more additional technical searches of the composites and MREs for a Tenprint transaction when no identification is made from the results of the first search. If technical searching has filtering of any type, then non-identifications shall undergo a more penetrating system driven no threshold search using selectable parameters. Such parameters will consist of the number of search candidates, gender, and the use of additional and/or different fingers from the initial search.	D						
108.	1	After the ABIS identification process is initially completed, a Transaction Response is sent from the ABIS to the SFPD	D						

		(CCH)CABLE. In the case where this Transaction Response includes identification, the SFPD (CCH)CABLE may subsequently respond to the ABIS with another Transaction Request for that transaction. This Transaction Request indicates that SFPD invalidated any Hit/Identification from SAFIS. The ABIS shall act on the request as follows: A single no threshold search is launched to produce another candidate for verification. No repeat candidates from prior search(es) for this fingerprint transaction TCN will be sent to verification or returned in the subsequent SFPD response. After searching and subsequent verification (if necessary) is completed, another Transaction Response message is returned to the SFPD (CCH)CABLE from the ABIS with any new candidate's Candidate Identification Indicator.	D							

109.	1	After the ABIS identification process is initially completed, a Transaction Response is sent from the ABIS to the SFPD (CCH)CABLE. In the case where this Transaction Response includes no identification, the SFPD (CCH)CABLE may subsequently respond to the ABIS with a single additional Transaction Request for that transaction. This Transaction Request indicates that SFPD has another name search candidate for verification on the ABIS. The ABIS shall edit and act on the request as follows:
		    1. ABIS pattern comparison will be performed between that name search candidate's SF# pattern on the target database and the transaction fingers' patterns
		    2. If the name search candidate's fingerprint patterns are pattern eliminated, then the Transaction Response message is returned to the SFPD (CCH)CABLE with that new name search candidate's Candidate Identification Indicator of "Pattern Eliminated".
		    3. If the name search candidate's fingerprint pattern is not pattern eliminated, then the candidate is sent for workstation verification and when subsequent verification
			D							

		is completed, another Transaction Response message is returned to the SFPD (CCH)CABLE from the ABIS with the new candidate's Candidate Identification Indicator.							
110. 1		The ABIS shall process Final Identification Message from the SFPD (CCH)CABLE as follows: 1. If the TPULF-eligible is set, ABIS shall automatically initiate a TP/ULF search with the transaction's images. 2. In addition, for all Final Identification messages a. If SF# is present in the message and the transaction is eligible for ABIS updating, perform the applicable target database update/modification process of the record and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed). b. IF SF# is present in the message and the transaction is ABIS Update Ineligible, update the audit system and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed). c. If SF# is not present in the message, update the audit system and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed).	D						
111. 1		Fingerprint acquisition and related ABIS Update Ineligible searches (inquiry transactions) shall be executed from remote sites without updating the permanent target ABIS database.	M						
112. 1		When the system is configured for one-step verification, the ABIS shall have another configurable capability for specific instances where exceptions exist that require a second step (or validation) to occur. These instances may consist of, but are not limited to: 1. A Dubious identification scenario – shall include such criteria as (a) Year of birth difference of seven years or more; or (b) low matching scores, or the equivalent.	D						

		2. There is no identification decision or there is an inconclusive decision for a suspect verification by the first verifier when performing one-step verification								
113.	1	If all twenty finger images (both the rolled images and the plain images) have been stored in the system, all twenty, are to be made available from tenprint target database for comparison purposes.	M							
114.	1	During the initial verification and validation process, no scores or biographic data shall be displayed on the screen.	M							
115.	1	All SF# candidates require a decision i.e. hit/no hit/inconclusive.	D							
116.	1	Image clarification and orientation applied to the search image will be retained when progressing through the candidate search list. Identification Technicians can return to the original fingerprint image and orientation by a single mouse click or key press throughout that identification transaction.	D							
117.	1	At a minimum, Identification Technicians performing verification shall be able to view candidate rank, SF# number and TCN.	D							
118.	1	The identification results of the candidate(s) returned after verification/validation are: • TCN • SF# • Identification result • ABIS score	D							
119.	1	For each search candidate in Validation, search scores, candidate rank, biographic data, candidate origin ((CCH)CABLE suspect or technical search suspect), and search type, will only be made available upon request for display purposes by accessing a popup window.	D							
120.	1/2 /3	Validators shall be able to modify patterns and re-launch searches from the workstation.	D							

121.	1/2 /3	When transaction validation is complete, ABIS returns Transaction Response to SFPD (CCH)CABLE.	D						
122.	All	ABIS shall allow exception processing for both TCN-based search transactions and SF#-based search transactions.	D						
123.	All	TCN-based transactions shall require exception processing when transactions declared non-identifications in Verification/Validation but could also be a hit based on: • high name search score, and/or • a candidate produced from both name search and technical search, and/or • a candidate produced from a contributor supplied number (field hit or number hit).	D						
124.	All	Search transactions requiring exception processing before final identification result is returned to the SFPD (CCH)CABLE include those where: • The verification and validation results do not match • Any SF# candidate is not present on the ABIS (if this is possible, such as completely bandaged hands)	D						
125.	1	ABIS shall allow for rechecking (additional review of transaction before final non-identification decision is made), from the workstation, on an as	D						
126.	1	Re-checkers shall have the capability to overwrite any part of the search criteria (patterns, search fingers	D						
127.	1	Re-checkers shall have the capability to change search criteria and subsequently launch searches that will retain original search transaction for updating the target database. These criteria shall include, but not be limited to: • Selecting/deselecting fingers used in the search • Patterns and pattern references • Sex	D						
128.	1	ABIS shall trigger exception processing for SF#-based transactions that require pattern reconciliation for the incoming	D						

		transaction versus the target record against which the transaction was identified. When the images for the transaction are identified to a SF#, but the related patterns are not similar per SFPD defined pattern comparison rules, the transaction will be placed in exception processing. An Identification Technician shall have the ability to view all images on an ABIS workstation and change the patterns on the composite record, if necessary.							
129. 1		Upon receiving a Final Identification Message from SFPD for transactions that are identified to an existing SF# on the target database (SF# information will be updated), the ABIS shall compare the patterns from the transaction with the corresponding patterns on the target database and process according to the following: • If for all fingers each finger's patterns are identical or the pattern in the target database is a subset of the pattern in the transaction, no pattern updating is necessary and normal processing can continue. • With the exception of Unknown (?) and Missing (M) pattern types, if any finger's pattern comparison fails to meet the above comparison rule, the pattern for that finger from the transaction shall be merged with that finger's target database pattern, updated and the transaction shall be sent to exception processing for review. • For identified SF#s that have Unknown (?) or Missing (M) pattern types on the target database and the transaction has a pattern type of /, \, A and/or W, do not update the patterns from the transaction to the existing SF# and send the transaction to exception processing for review. • For identified SF#s that have Unknown (?) or Missing (M) pattern types on the transaction and the corresponding finger's patterns on the target database is /, \, A and/or W, do not update the patterns and send the transaction to exception processing for review.	D						

130.	1	Any image or search data changes to a SF# record shall automatically launch TP/TP and TP/ULF searches. For any TP/TP searches that result in a hit, ABIS returns 'SF# search' Results message to SFPD (CCH)CABLE.	D							
131.	1	The ABIS shall be able to run SF#-based self-searches utilizing selectable search parameters and/or a SF# list supplied by SFPD and/or all records not searched or identified to in a previous timeframe. The ABIS must support this functionality without impacting priority work. For any searches that result in an identification(s), ABIS returns 'SF# search' Results message to SFPD (CCH)CABLE.	D							
132.	1	ABIS shall provide a function to modify a composite and/or MRE in the event of an erroneous identification	D							
133.	1	ABIS shall receive and process 'SF# Status' messages from SFPD (CCH)CABLE, after SFPD processing has performed a record maintenance or other update upon a SF# number. If the message contains an event count field value of "0" for the SF#, then ABIS shall delete the SF# from the ABIS, and format and send SF# Status Response message to SFPD. If the SF# Status message contains an event count field value greater than "0", then SAFIS shall compare that data with the corresponding data on the target database for the SF#, and update ABIS appropriately, if necessary, to contain only the corresponding data that is in the SF# Status message. This is necessary because the SFPD (CCH)CABLE will determine the ABIS eligibility as well as the most current biographic and demographic data for the SF# numbers in the ABIS target database(s). ABIS returns a SF# Status Response message to SFPD (CCH)CABLE. See Appendix J, Tables 1a – 1e for message requirements.	D							
134.	1	The ABIS shall send an ABIS FILE Maintenance Notice message. to SFPD (CCH)CABLE when information kept on the SFPD system is changed on the ABIS (i.e. patterns, quality of images).	D							

135.	All	All ABIS data must be viewable, by SF# or TCN, via a user interface.	M							
136.	All	User Interface screens shall be used by Identification Technicians and will display real-time transaction based information. The field information displayed should be selectable for a given transaction. This information should include, when present, but not be limited to: • TCN; • Current Status/Queue; • Name; • Contributor ORI; • Type of transaction; • Fax Number; • Arrest number; • CJTN; • Transaction Processing Times for all stages/queues (stage/queue name, date started/ended, time (hour/minutes/second) started/ended, time elapsed for each stage)); • Pattern Assignments for each finger by stage/queue including Identification Technician userid and pattern (auto classification, manual, topological, if used); • Quality Assignments for each finger (coder and manual, if used)by stage/queue including Identification Technician userid and score, if used; • Rejection Reasons, both actual and tentative, and Identification Technician userid by stage/queue with date and time of rejection; • Image Substitution Performed with Identification Technician userid and finger numbers by stage/queue; • Exception Processing results; • Verification/Validation results; and • Sequence Errors detected.	D							

137.	All	A user interface screen shall include Transaction source type for each image for an SF#.	D						
138.	1	A user interface screen shall include the following SF# information: • Patterns – values on the system currently, manual and/or auto class indication for each finger. • An indicator if the finger was captured from a rolled or a plain impression. • The Quality for each finger, visual rating coder score and coder rating. • Indication for each finger that has a scar (SR). • The event count • TCN's for latest five transactions associated to a SF#. A hyper-link for each TCN to the Audit information, when selected, will return all TCN information to the user interface.	D						
139.	1	A user interface screen shall include the following TCN information: • a hyper-link on the identified SF#, if applicable. When selected, the SF# link will return the SF# information to the user interface. • Verification and Validation results on one screen.	D						
140.	1	The ABIS shall permit an Identification Technician to process through a range of transactions or all transactions in a Work Queue, without having to return to the Work Queue to select the next item to be worked on. The next transaction shall automatically be made available upon completion of the current transaction.	D						
141.	1	The system shall provide the capability to prevent users from altering any characteristics from non latent print automatically created by the AFIS system.	D						
142.	1	The system shall provide the capability to accept fingerprint images of up to 1.5" x 1.6" in size	D						

143.	1	The system shall provide the capability to accept fingerprint slap images of up to 1" x 1" in size	D						
144.	1	The system shall provide the capability to utilize a multiple threshold scoring system.	D						
145.	1	The system shall provide the capability to represent distinct thresholds.	D						
146.	1	The system shall provide the capability to have a distinct threshold for Criminal, civil, authentication, Autoident criminal Autoident civil, Increase Confidence, and consolidation.	D						
147.	1	The system shall provide the capability to return no more than n matches to a search that exceed the Normal threshold	D						
148.	1	. The default value for n shall be configurable	D						
149.	1	The system shall provide the capability to allow Permitted Users to set n the number of matches for a particular search	D						
150.	1	The system shall provide the capability to provide list of matching prints that exceed a Normal threshold value to any of specified workstations not to exceed Y.	D						
151.	1	The system shall provide the capability to identify any search print that had no match as a "no hit" and send the print to the no hit queue	D						
152.	1	The system shall provide the capability to compare a search print against any print or set of prints selected by the operator.	D						
153.	1	The system shall provide the capability to allow operators to be able to select prints by name, dle, obts, active/inactive	D						
154.	1	The system shall provide the capability to set thresholds for: • a particular tenprint search • an autoident search • all tenprint searches • a particular batch • a particular submitter • a submitter group	D						

		• Default values for thresholds shall be configurable							
155	1	The system shall provide the capability to allow Permitted Users to set thresholds	D						
156	1	The system shall provide the capability to set the values for the number of match candidates returned for: • a particular tenprint search • an autoident search • all tenprint searches • a particular batch • a particular submitter • a submitter group	D						
157	1	Default values for the number of match candidates returned shall be configurable	D						
158	1	The system shall provide the capability to allow Permitted Users to set the number of match candidates returned	D						
159	1	The system shall add a print to the "no match auto ident queue" if it does not find a match during "auto ident" mode	D						
160	1	The system shall provide the capability to automatically resubmit prints from the "no match auto ident queue" as regular ten print submissions, that is not resubmitted as an autoident	D						
161	1	The system shall provide the capability to allow Permitted Users to resubmit prints in the "no match auto ident queue" as non auto ident search	D						
162	1	The system shall provide the capability to allow Permitted Users to select any print image in the SFPD ABIS and enter the "visual quality" of that print	D						
163	1	The system shall provide the capability to allow Permitted Users to select any Livescan submission for "visual quality"	D						
164	1	The system shall provide the capability to allow Permitted Users to enhance the image	D						
165	1	The system shall provide the capability to allow Permitted Users to reset the "visual quality" of any print	D						

166.	1	The system shall provide the capability to allow Permitted Users to save enhanced image with new visual quality value	D							
167.	1	The system shall provide the capability to save prints if there is at least one image in the print set	D							
168.	1	The system shall provide the capability to search prints if there is at least one image in the print set	D							
169.	1	The system shall provide the capability to set print "search quality" automatically	D							
170.	1	The system shall provide the capability to prevent users from modifying "search quality"	D							
171.	1	The system shall provide the capability to allow Permitted operators to set print "visual quality"	D							
172.	1	The system shall provide the capability to indicate which is the highest "visual quality" or "search quality" print from multiple prints from the same subject	D							
173.	1	The system shall provide the capability to create and display a composite image made from the best "search quality" finger or palm print from multiple prints of the same subject	D							
174.	1	The system shall provide the capability to create and display a composite image made from the best "visual quality" finger or palm print from multiple prints of the same subject.	D							
175.	1	The system shall provide the capability to send every nth print that is autoidented to a queue for human verification.	D							
176.	1	N shall be system configurable	D							
177.	1	The system shall provide the capability to submit prints for search from: • live-scan devices • photocopies • printed copies • photographs • group III or better facsimiles	D							

178.	1	The system shall provide the capability to perform an automated "search quality" check on all print images received .	D						
179.	1	The system shall provide the capability to reject prints that fail the "search quality" check unless an override with a reason accompanies the prints	D						
180.	1	The system shall provide the capability to reject prints for which an image is missing or blank and there is no indication that a finger is amputated or bandaged	D						
181.	1	The system shall provide the capability to reject prints if the images are in the wrong order and the machine cannot automatically reorder with 100% accuracy	D						
182.	1	The system shall provide the capability to automatically reorder images on print sets	D						
183.	1	The system shall provide the capability to notify submitter of a rejection and the reason	D						
184.	1	The system shall provide the capability to delete all images and text data for rejected prints	D						
185.	1	The system shall provide the capability to prevent the acceptance of NIST packets that do not contain actual images of prints (have minutia or characteristics only).	D						
186.	1	The system shall provide the capability to resubmit a subject with finger images different from those selected on the previous search	D						
187.	1	The system shall provide the capability for Permitted Users to submit a print for comparison against a specific subject/subjects	D						
188.	1	The system shall provide the capability to search new criminal prints automatically against non-criminal search spaces or special search spaces	D						
189.	1	The default non-criminal search spaces or special search spaces shall be configurable	D						
190.	1	The system shall provide the capability to allow Permitted users to select non-criminal search spaces or special search spaces	D						

191.	1	The system shall provide the capability to submit a search for identification but not allow the print to be added to the database. This capability is called "Identify Only"	D						
192.	1	The system shall provide the capability to add a print to the AFIS database if the print does not match any print in the database and the print is not "identify only".	D						
193.	1	The system shall provide the capability to automatically determine that a search results in an ident without human verification if its matching score is above an Autoident threshold This capability is called Autoident Mode	D						
194.	1	The system shall provide the capability to search the entire selected search space in Autoident Mode.	D						
195.	1	The system shall provide the capability to send matches to the verification queue if multiple matches are found in Autoident Mode.	D						
196.	1	The system shall provide the capability to select print types eligible for Autoident Mode	D						
197.	1	The system shall provide the capability to allow the following types of prints as eligible for Autoident Mode: • authentication • civil/print • criminal • specific • specific agency	D						
198.	1	The system shall provide the capability to send every nth print that is Autoidented to a queue for human verification.	D						
199.	1	N shall be system configurable	D						
200.	1	The system shall provide the capability to automatically add more fingers to the search print until the fused score exceeds the match threshold or all finger images have been exhausted. This capability is called "Increased Confidence" Mode.	D						

201.	1	The system shall provide the capability to automatically determine if prints are out of order (e.g. finger order, hand order, palm order)	D						
202.	1	The system shall provide the capability to report to SFPD TBD when prints are out of order.	M						
203.	1	The system shall provide the capability to calculate statistics for prints out of order (e.g. how many overall, which user)	D						
204.	1	The system shall provide the capability to report statistics on prints out of order	D						
205.	1	The system shall provide the capability to allow Permitted Users to request reports on prints out of order	D						
206.	1	The system shall provide the capability to check print order before submitting prints for search	D						
207.	1	The system shall provide the capability to automatically reject a search if the prints are out of order	D						
208.	1	The system shall provide the capability to automatically send rejected searches to an error resolution queue	D						
209.	1	The system shall provide the capability to allow Permitted Users to request a check of print order on a subjects prints	D						
210.	1	The system shall provide the capability to allow Permitted Users to reorder prints	D						
211.	All	The ABIS shall automatically refresh the Work Queues as transactions are completed from the queues.	D						
Requirement Type – Latent Requirements									
212.	1/2	The system shall provide the capability to identify whether a latent is a "quality latent" or a non "quality latent"	D						
213.	1/2	A "quality latent" shall be a latent that has a better than average chance of finding a match if mate is in search space	D						
214.	1/2	The system shall provide the capability to automatically calculate "quality latent" after minutia are entered on a latent	D						
215.	1/2	The system shall provide the capability to allow a Permitted user to display the number of minutia on a latent	D						

216.	1/2	The system shall provide the capability to allow a Permitted user to display whether a latent is a "quality latent" or a non "quality latent"	D						
217.	1/2	The system shall provide the capability to set the latent search space independent of other search spaces	D						
218.	1/2	The system shall provide the capability to set the latent search space independently for each latent submission	D						
219.	1/2	The default latent search space shall be configurable	D						
220.	1/2	The system shall provide the capability to allow Permitted Users to specify the latent search space	D						
221.	1/2	The system shall provide the capability to return no more than n candidates for a latent search	M						
222.	1/2	The system shall provide the capability to return candidates in order of most probable match	M						
223.	1/2	The default value n for the number of candidates returned for latent search shall be a configurable item	D						
224.	1/2	The system shall provide the capability to set n the number of candidates returned independently for each latent submission	D						
225.	1/2	The system shall provide the capability to allow Permitted Users to specify n, the number of candidates returned	D						
226.	1/2	The system shall provide the capability to detect when a latent submission represents a crime whose statute of limitations is "imminent"	D						
227.	1/2	The system shall provide the capability to determine if a latent is "imminent" by determining n, the number of days remaining before the statute of limitations expires	D						
228.	1/2	n, the number of days remaining before the statute of limitations expires shall be configurable	D						
229.	1/2	The system shall provide the capability to calculate once per n days if a latent is "imminent"	D						
230.	1/2	n the number of days between calculating that a latent is imminent shall be configurable	D						

231.	1/2	The system shall provide the capability to notify appropriate submitters when a latent submission represents a crime whose statute of limitations is "imminent"	D							
232.	1/2	The system shall provide the capability to notify appropriate submitters when a latent print or associated data is deleted	D							
233.	1	Latent fingerprint processing shall search the entire target database consisting of the rolled and plain fingers from the composite and each Most Recent Entry (MRE).	M							
234.	2	All known Palm Print submissions shall automatically be searched against the Unknown Latent Palm Print File (TPP/ULPP).	M							
235.	2	Palm Print submissions shall be updated to the corresponding target database.	M							
236.	1/2	ABIS shall accept and store Latent print images in commonly accepted resolution at or above 500 ppi in accordance with the ANSI/NIST-ITL-1-2007.	M							
237.	1/2	ABIS shall provide encoding and searching of Latent print transactions at 500 ppi if received at 500 ppi against a target database which is mixture of 1000ppi and 500ppi.	M							
238.	1/2	ABIS shall accept and store Latent print images at 1000 ppi in accordance with the ANSI/NIST-ITL-1-2007. .	M							
239.	1/2	ABIS shall store the latent (both fingerprint and Palmprint) minutiae data encoded manually and / or automatically in ANSI-NIST-ITL-2007 Type open standard format in INCIT 378 and the NIST CDEFFS (Committee on the Definition of Extended Fingerprint Features). The offeror shall outline all the specific CDEFFS data fields supported by their ABIS. The records will be verified during the acceptance plan for compliance and correctness. The stored NIST standard compliant fingerprint and Palmprint latent feature template records shall be accessible/readable by SFPD.	M							
240.	1/2	ABIS shall provide encoding and searching of Latent print transactions at 1000 ppi if received at 1000 ppi against a target	M							

		database which is mixture of 1000ppi and 500ppi.							
241.	1/2	ABIS shall enable a Latent Print Examiner to launch a Latent print search from these images.	M						
242.	1/2	ABIS shall accept at least one standard image file format such as bitmap and tiff. The image file must be a lossless format.	M						
243.	1/2	ABIS shall create an FBI EBTS compliant Latent print feature search transactions file.	M						
244.	1/2	ABIS shall have an alpha numeric Latent print image identifier to be entered by the Latent Print Examiner. The Latent print image identifier will be the same for each unique Latent print image across all searches of that image in the case.	M						
245.	1/2	The Latent Search ID shall allow up to ten characters and be fully editable by the Latent Print Examiner. The Latent Search Id must be unique within a Latent Case Number.	D						
246.	1/2	ABIS shall maintain the original and clarified version of a Latent print image and allow both to be used when making comparisons to candidates.	D						
247.	1/2	The search filters shall at a minimum include options on finger number or palm position, segmented palm areas (if applicable), sex, race, county, region, crime type and Latent search eligible civil records. If the Prime/Prime Offeror's system uses fingerprint patterns then there shall be the option to include fingerprint pattern as a filter.	M						
248.	1/2	ABIS shall allow a Latent Print Examiner to search unsolved Latent fingerprint images against the Unsolved Latent Fingerprint Database. LFP/ULFD	M						
249.	1/2	ABIS shall allow a Latent Print Examiner to search unsolved Latent palm print images against the Unsolved Latent Palm Database. LPP/ULPD	M						
250.	1/2	ABIS shall allow the Latent Print Examiner to mark a Latent print image as either finger or palm. ABIS shall use this designation to search the appropriate target database.	M						

251.	1/2	ABIS shall enable a Latent Print Examiner to select a 360 degree orientation search.	M						
252.	1/2	ABIS shall enable a Latent Print Examiner to segment individual finger print images from a cluster and individually encode one or more Latent print images.	M						
253.	1/2	The Latent Print Examiner shall be able to indicate the pattern of each individual image in the cluster whether or not the individual Latent print image is used in the search.	M						
254.	1/2	ABIS shall allow for automatic and manual encoding of Latent print image features and the retention of such image features.	M						
255.	1/2	ABIS shall allow a Latent Print Examiner the option to reuse the encoding from one search when additional searches of the same image are performed using different search parameters.	M						
256.	1/2	ABIS shall automatically assign to each Latent print image search a search creation date equal to the present date.	M						
257.	1/2	ABIS shall enable the Latent Print Examiner performing the encoding to change the parameters of a search, add a new search, and delete a specific search.	M						
258.	1/2	ABIS shall provide a single entry screen to support modification of descriptors, data fields, and parameters for search.	D						
259.	1/2	ABIS shall enable a Latent Print Examiner to add, edit, and delete automatically or manually encoded features from Latent print images.	M						
260.	1/2	ABIS shall enable the Latent Print Examiner the option to save any Latent search to the ULFD/ULPD or to discard the Latent print image search.	D						
261.	1/2	ABIS Latent search results shall not include a candidate marked as Latent Search Ineligible (information supplied from SFPD (CCH)CABLE), Need Message Format Table, from CABLE here).	M						
262.	1/2	ABIS shall enable a Latent Print Examiner to perform at the workstation a side by side evaluation of a Latent print image record and an image of a known suspect by entering the suspect SF# as the candidate.	M						

263.	1/2	The Latent Print Examiner shall have the option to perform a TP/ULFD or a PP/ULPD search with the suspect image(s.) This search is performed when a suspect name and/or SF# is provided by the submitting agency and the SF# Tenprint or Palm print record is searched against the appropriate target database.	M						
264.	1/2	ABIS shall perform the selection of Latent print candidates above the site's Candidate Threshold.	D						
265.	1/2	Post search, when a Latent Print Examiner is reviewing search results, ABIS shall enable the Latent print examiner to select a view of a top number of candidates.	D						
266.	1/2	The candidate list shall display, at a minimum, the Latent print Case Number, Latent print image identifier, search parameters, and each candidate SF#.	D						
267.	1/2	ABIS shall rank and display the candidate list in the order of most likely to least likely match.	M						
268.	1/2	When performing side by side image comparison in both the Evaluation and Verification process, ABIS shall provide the Latent Print Examiner the ability to print the biographic data of an individual candidate who appears in the search result candidate list.	M						
269.	1/2	ABIS shall not display any biographic data on a candidate, such as name. The candidate shall be specified to the Latent Print Examiner only by the SF# number and any search parameter data.	D						
270.	1/2	ABIS shall include on the candidate list the matching finger number.	M						
271.	1/2	ABIS shall not display the ABIS score on the evaluation user interface.	M						
272.	1/2	ABIS shall return the search results automatically to the same Latent Print Examiner that initiated and launched the search unless the Latent Print Examiner has specified otherwise	M						
273.	1/2	ABIS shall inform each verifier when their indications are not all the same and allow each to reevaluate their indication. The	D						

		process will not be completed until all indications agree. ABIS shall enable a verifier to forward a Latent print to a supervisor or to another Latent Print Examiner when the verification cannot be confirmed. The supervisor will have the final determination.							
274.	1/2	ABIS shall provide a side by side view of the Latent print image along with the corresponding search candidate's fingerprint or palm print image area to support evaluation.	M						
275.	1/2	ABIS shall display the Latent print image beside the candidate image at the same size and scale.	M						
276.	1/2	ABIS shall enable the display of the Latent and candidate images at the same orientation based on ABIS's correlation of print image features.	M						
277.	1/2	ABIS shall enable the toggling on and off of the display of minutiae for the Latent and candidate print images.	M						
278.	1/2	ABIS shall enable the Latent Print Examiner to place their own markers on the Latent and candidate images. Markers shall be editable (placed or removed) with the ability to be toggled on and off.	M						
279.	1/2	ABIS shall forward all Latent print searches that have been evaluated to the Latent Print Examiner assigned to a verifier role for further processing.	D						
280.	1/2	ABIS shall provide a means for the verifying Latent Print Examiner to indicate an identification, non-identification, or inconclusive result to a search candidate by a single action with a confirmation step.	M						
281.	1/2	Upon a verifying Latent Print Examiner indicating identification, ABIS shall automatically create a printable "screen image" as a locked comparison quality image that combines the submission Latent search image and corresponding candidate search image as viewed at the time of verification.	M						
282.	1/2	The printable screen image from a verifying Latent Print Examiner's identification, will contain, in addition to the images, the following information: the user ID of the verifying Latent Print	M						

		Examiner, device on which the verification took place, verified SF#, Latent case number, submission Latent print image, Tenprint file fingerprint image, palm hand or specific palm area, image name, date and time verification occurred.							
283.	1/2	ABIS shall enable a Latent Print Examiner to print the evaluation or verification side by side comparison screen image. This shall be printed at the highest resolution available for the printer. See http://www.fbibiospecs.org/fbibiometric/docs/EBTS %20V8.002%2010-24-07.pdf	M						
284.	1/2	When a TP/ULFD search result is being viewed, ABIS shall display at workstation evaluation verification time, all Latent case numbers related to the same search.	M						
285.	1/2	When a Palm print transaction is tentatively identified to a Latent Palm print image(s) stored in the Unsolved Latent Palm print database as a result of a PP/ULPD search, ABIS shall display all Latent case numbers related to the same search.	D						
286.	1/2	When a Latent print search results in non-identification and the Latent Print Examiner has indicated the search retention Expiration Date, ABIS shall automatically retain the image on the ULFD or ULPD with the Expiration Date.	D						
287.	1/2	ABIS shall allow a single case to be searched autonomously by multiple Latent Print Examiners. Each search shall be saved separately with the same case number but distinguished by differing originating Latent Print Examiner.	D						
288.	1	When saving a Latent Fingerprint (LFP) image to the Unsolved Latent Fingerprint Database (ULFD,) ABIS shall allow a Latent Print Examiner to select which future Non-Identified Tenprint (TP) transactions shall trigger searches against the saved Latent Fingerprint image (TP/ULFD.) These search filters may include but not be limited to crime type, county, region, sex, race and can be changed by the initiating/owning Latent Print Examiner at anytime.	D						

289	2	When saving a Latent Palm print (LPP) image to the Unsolved Latent Palm print Database (ULPD,) ABIS shall allow a Latent Print Examiner to select which future Non-Identified Palm print (PP) transactions shall trigger searches against the saved Latent Palm print image (PP/ULPD.) These search filters may include but not be limited to crime type, county, region, sex and can be changed by the initiating/owning Latent Print Examiner at anytime.	D						
290	1/2	When saving the latent fingerprint and Palmprint images to the ULFD and ULPD, the images shall be compressed by lossless compression only. The images in the ULFD and ULPD shall be accessible by SFPD.	M						
291	1	ABIS shall perform the selection of TP/ULFD search candidates above a selectable Candidate Score Threshold or other search System Hit Parameters.	D						
292	1	The verification process of a Tenprint image searched against the Unsolved Latent Fingerprint Database (TP/ULFD) shall be uniform with the verification process of a Latent Print Fingerprint image searched against the Tenprint Database (LFP/TPDB).	D						
293	1/2	ABIS shall not automatically determine identification or non-identification on a TP/ULFD search candidate.	M						
294	1/2	Upon receipt of a Latent print search cancellation request, ABIS shall cancel the search request and delete the search details from ABIS.	D						
295	1/2	Prior to purging an image from the ULFD or ULPD, whether by expiration date or a request to purge, a purge request confirmation message must be sent to and acknowledged by the case owner before purge completion. Once the purge has been completed, an additional acknowledgement narrative message shall be displayed.	M						
296	1/2	ABIS shall enable a site to purge only those searches in the ULFD/ULPD that were added by Latent Print Examiners within their responsibility.	M						

297.	1/2	ABIS shall ensure each new ULFP/ULPD image be registered with an Expiration Date.	D						
298.	1/2	ABIS shall use an indefinite retention – expiration date of 9999-99-99 or other specific setting to indicate that the entry shall not be automatically purged.	D						
299.	1/2	The expiration date shall only be amendable by the Latent print case owner.	D						
300.	1/2	ABIS shall provide a process for batch updating of electronic Latent fingerprint and/or palm print images to the appropriate Unsolved Latent file/database after the initial conversion phase has been concluded and the ABIS is in production.	D						
		Requirement Type – General Workstation Functionality							
301.	1/2	All workstations shall be equipped with a color display screen, mouse and standard keyboard	M						
302.	1/2	All workstations shall be equipped with the appropriate Network Interface Card to allow them to connect to the SFPD LAN	M						
303.	1/2	All workstations shall be equipped with a suite of Office Productivity software such as Microsoft Office or Corel Office suite to be determined during phase 2	M						
304.	1/2	All workstations shall provide access to a printer	M						
305.	1/2	Workstations shall allow selection of the next available transaction in a queue with a single mouse click or key press.	D						
306.	1/2	Workstations shall display counters listing the number of transactions by priority in all queues.	D						
307.	1/2	Workstations shall have selection filter options for each queue based on, but not limited to: Identification Technician/Latent Print Examiner; Processing Status; Transaction Priority (by one or more selectable priorities); Receipt Date/Time; TCN/Case Identifier; Latent Print Image Identifier.	D						

308.	1/2	Workstations shall have a sort functionality for each queue based on, but not limited to: Identification Technician/Latent Print Examiner, Processing Status; Transaction Priority (by one or more selectable priorities); Receipt Date/Time; TCN/Case Identifier.	D						
309.	1/2	The workstation shall enable an examiner to scroll forward and backward through the search result candidate list.	D						
310.	1/2	The Identification Technician\Latent Examiner shall have image clarification and feature tools available on each screen, where applicable. They shall include, but not be limited to: Adjustable minutiae quality threshold, remove minutiae, add/remove scaling, restore enhanced image, reverse video, gradient ridge detection– including a minimum of four directional angles to select, save image enhancement, undo, zoom, axis, add minutiae, auto enhancement, automatic coding, brightness, contrast, change scale, create area (select an area to enlarge), delete all minutiae, delete minutiae in a selected area, display original image, history of changes made, and hide/display minutiae toggle, auto position, double cursor, erase mark, add mark, image flip, histogram view, associated minutiae matching, rotation of search and candidate images.	D						
311.	1/2	A print function, using a single mouse click or key press for all screens, shall be provided by the Offeror.	M						
312.	1/2	Image override indicators passed to the ABIS system from SFPD shall be displayed to Identification Technicians on all screens where the image is displayed. These overrides shall include, but not be limited to: Amputated, Sequence, Best, and Bandaged.	D						
313.	1/2	Non-Rejectable indicator, as determined by SFPD, shall be displayed per transaction to the Identification Technician throughout the pre search process.	D						
314.	1/2	The Identification Technician shall have the ability to select or deselect a finger as missing throughout the pre search process.	D						
315.	1/2	The Identification Technician shall have the ability to select multiple reject reasons throughout the process. SFPD will define	D						

		the reject reasons.							
316.	1/2	An Identification Technician shall have the option to reject a transaction at any point during the pre search processing. A reason(s) for this rejection must be selected by the Identification Technician.	D						
317.	1/2	An Identification Technician\Latent Print Examiner shall have the option to undo work performed on any transaction, with a confirmation step, without saving changes.	D						
318.	1/2	Several views shall be available for Identification Technicians for each transaction throughout the pre search process. These views shall include, but not be limited to: • All plain fingerprint images and rolled fingerprint images on one screen, • all rolled fingerprint images on one screen, • all plain fingerprint images on one screen, • individual rolled fingerprint image and the corresponding plain fingerprint image on one screen, • enlarged individual rolled fingerprint image on one screen, • biographic data and signature on one screen.	D						
319.	All	The workstation shall include a high-resolution color screen with a minimum resolution of 1000ppi	D						
320.	All	The size of the workstation screen shall be no less than 21 inches	D						
321.	1/2	The workstation shall include or provide access to a digital camera administered by the SFPD latent section with a minimum resolution of 1000ppi and 256 levels of grayscale	M						
322.	1/2	All workstation shall provide the capability to accept input from SFPD latent administered digital cameras	D						
323.	1/2	The workstation shall include or provide access to a flatbed scanner administered by the SFPD latent section with a minimum	M						

		resolution of 1000dpi and 256 levels of grayscale							
324.	1/2	The workstation shall provide the capability to accept input from SFPD latent flatbed scanners.	M						
325.	1/2	The workstation shall include or provide access to a printer administered by the SFPD latent section with a minimum resolution of 1000dpi and 256 levels of grayscale.	M						
326.	1/2	The workstation shall include a drawing tablet and stylus	D						
327.	1/2	All workstation shall provide the capability to accept input from included drawing tablet and stylus	D						
328.	1/2	The workstation shall provide the capability to allow Permitted users the ability to request all image changes to a latent and their associated history.	D						
329.	All	The workstation shall provide the capability to allow split screen usage with side by side viewing of user selected images on the same screen	D						
330.	All	The workstation shall provide the capability to allow Permitted users the ability to read and display any ANSI/NIST transaction, including ten-print search records with mug shots	D						
331.	1/2	The workstation shall provide the capability to allow Direct Latent capture, photographs, copies, and direct Latent Lifts as acceptable inputs to the scanner and digital camera	M						
332.	1/2	The mechanisms for placing, holding and removing the inputs to the scanner and digital camera shall not damage the original	M						
333.	All	The workstation shall provide the capability to allow Permitted users to set the priority of a latent search	D						
334.	1/2	The workstation shall provide the capability to provide a drop down list with the permitted values for a latent search priority	M						
335.	1/2	The workstation shall provide the capability to allow Permitted users to enter the priority of FBI latent submission	M						
336.	1/2	The workstation shall support the FBI ULW application.	M						

337.	All	The workstation shall provide the capability to allow Permitted users to collaborate with sites outside of SFPD.	D						
338.	1/2	The workstation shall provide the capability to allow Permitted users to view, edit and share fingerprint images with others on the SFPD LAN	D						
339.	1/2	The workstation shall be Interoperable with desktop tools, allowing the workstation reads and writes to the clip board	D						
340.	1/2	The workstation shall be Interoperable with file formats utilized in at least the following desktop tools: MoreHits, Media Cybernetics' ImagePro, Adobe PhotoShop, and IISI's "Latent Pro" software;	D						
341.	1/2	The workstation shall provide the capability to automatically encode all manually adjustable characteristics	M						
342.	1/2	The workstation shall provide the capability to include minutia, minutia type, core, ridge count, ridge direction, and quality as automatically encoded characteristics	M						
343.	All	The workstation shall not mark more than 10% of all the automatically encoded characteristics incorrectly	M						
344.	All	The system shall provide the user an indication of the allowable values for priority either as a drop down menu or upon help request	D						
345.	1 & 3	The system shall provide the user an indication of which fingers are permitted in the Authentication search space either as a drop down menu or upon help request	D						
346.	All	The system shall provide the user an indication of their allowable search spaces either as a drop down menu or upon help request.	D						
347.	1 & 3	The system shall provide the capability to provide Permitted users the ability to request the number of fingers required or the specific fingers required to pass the image quality test before requesting rescan	D						
348.	All	Permitted users shall be able to request images or data to their individual queues or workstations.	M						
349.	1/2	The system shall provide the capability to accept inputs from Livescan devices	M						

	/ 3								
350.	All	The system shall provide open APIs for interface to other agencies	D						
351.	1/2	The Permitted User of a workstation shall be provided the capability to indicate multiple areas of interest on a print	D						
352.	1/2	The Permitted User of a workstation shall be provided the capability to indicate multiple area of non interest on a print	D						
353.	1/2	The Permitted User of a workstation shall be provided the capability to obtain automatically encoded characteristics of areas of interest	D						
354.	1/2	The Permitted User of a workstation shall be provided the capability to delete encoded characteristics of areas of non interest	D						
355.	1/2	The workstation shall provide the capability to allow Permitted Users to save encoded characteristics at any time	D						
356.	1/2	The workstation shall provide the capability to allow Permitted Users to display sets of saved characteristics	D						
357.	1/2	The workstation shall provide the capability to allow Permitted Users to display a list of sets of saved characteristics	D						
358.	1/2	The workstation shall provide the capability to allow Permitted Users to sort the list of saved characteristics by User ID/Time characteristic was saved	D						
359.	1/2	The workstation shall provide the capability to allow Permitted Users to select a set of saved characteristics from the list of available sets	D						
360.	1/2	The system shall provide the capability to associate saved characteristics with User ID, date and time characteristic was saved	D						
361.	1/2	The Permitted User of a workstation shall be provided the capability to request saved characteristics	D						
362.	1/2	The workstation shall provide the capability to allow Permitted Users to edit any of these saved characteristics	D						

363.	1/2	The Permitted User of a workstation shall be provided the capability to align the image by rotation in any direction	D						
364.	1/2	The Permitted User of a workstation shall be provided the capability to move the image with the cursor	D						
365.	1/2	The Permitted User of a workstation shall be provided the capability to Zoom in and out on an image with a minimum power from 1 to 20	D						
366.	1/2	The Permitted User of a workstation shall be provided the capability to specify a magnification parameter to enlarge images.	D						
367.	1/2	The Permitted User of a workstation shall be provided the capability to perform all image manipulation and enhancement functions that are contained in the most recent versions of Adobe Photoshop, IISI's "Latent Pro" , or More Hits	D						
368.	1/2	The workstation shall provide the capability to allow a Permitted User to perform all image manipulation and enhancement operations on each of the images in split screen mode independently	D						
369.	1/2	The workstation shall provide the capability to automatically separate overlaid latent	D						
370.	1/2	The Permitted User of a workstation shall be provided the capability to Zoom in and out on split screen images independently	D						
371.	1/2	The Permitted User of a workstation shall be provided the capability to coordinate split images so that zoom on one zooms the other at same point and power	D						
372.	1/2	The workstation shall provide the capability to allow a Permitted User to adjust the height/width of the image.	D						
373.	1/2	The Permitted User of a workstation shall be provided the capability to position the image on the left or right side of the split screen	D						
374.	1/2	The workstation shall provide the capability to allow Permitted users the ability to view any image on a full screen or a split	D						

		screen							
375.	1/2	The workstation shall provide the capability to perform interactive contrast variations, image sharpening, and "Fast Fourier Transform" routines	D						
376.	1/2	The workstation shall provide the capability to automatically enhance ridges	D						
377.	1/2	The workstation shall provide the capability to allow a Permitted User to mark artifacts	D						
378.	1/2	The workstation shall provide the capability to allow a Permitted User to remove artifacts	D						
379.	1/2	The workstation shall provide the capability to allow a Permitted User to modify the gray scale.	D						
380.	1/2	The Permitted User of a workstation shall be provided the capability to invert images.	D						
381.	1/2	The Permitted User of a workstation shall be provided the capability to display images in user selected color	D						
382.	1/2	The Permitted User of a workstation shall be provided the capability to display characteristics in user selected color	D						
383.	1/2	The Permitted User of a workstation shall be provided the capability to select display colors	D						
384.	1/2	The Permitted User of a workstation shall be provided the capability to superimpose one image on another	D						
385.	1/2	The workstation shall save the characteristics of each latent submitted along with the ID of the operator who created the data, date of creation, and dates of modifications.	D						
386.	1/2	The workstation shall provide the saved latent data to the SFPD ABIS system	D						
387.	1/2	The Permitted User of a workstation shall be provided the capability to fuse previously saved characteristics into a single set of characteristics	D						
388.	1/2	The Permitted User of a workstation shall be provided the capability to automatically count minutia and indicate to the operator whether it is a "Quality Latent". That is, it has at least n	D						

		minutia where the default value for n is 14.							
389.	1/2	The n to determine "Quality Latent" shall be system configurable	D						
390.	1/2	The Permitted User of a workstation shall be provided the capability to compress and decompress images using the WSQ algorithm.	D						
391.	1/2	For images captured at 500ppi, the default value for the WSQ compression/decompression ratio shall be 15:1	D						
392.	1/2	For images captured at 500ppi, the default value for the WSQ compression/decompression ratio shall be system configurable	D						
393.	1/2	For images captured at 500ppi, the system shall provide the capability to allow Permitted Users to select any valid WSQ compression or decompression ratio	D						
394.	1/2	For images captured at 1000ppi, the default value for the JPEG2000 compression/decompression ratio shall be 15:1	D						
395.	1/2	For images captured at 1000ppi the default value for the JPEG200K compression/decompression ratio shall be system configurable	D						
396.	1/2	For images captured at 1000ppi the system shall provide the capability to allow Permitted Users to select any valid JPEG2000 compression or decompression ratio	D						
397.	1/2	The system shall provide the capability to allow only Properly Privileged users to change automatically extracted characteristics	D						
398.	1/2	The workstation shall provide the capability to allow a Permitted User of a workstation to the capability to submit a print for a search against selected prints without manually extracting characteristics	D						
399.	1/2	The workstation shall provide the capability to search with automatically extracted characteristics when a print is submitted without manual extraction of characteristics or selecting a previously stored set of characteristics	D						
400.	1/2	The workstation shall provide the capability to use the currently open set of extracted characteristics when a print is submitted for	D						

		search							
401.	1/2	A Permitted User of a workstation shall be provided the capability to submit latent searches directly to the FBI or other agency	D						
402.	1/2	A Permitted User of a workstation shall be provided the capability to create "special" search spaces	D						
403.	1/2	The workstation shall provide the capability to allow Permitted users to add prints to "special" search spaces	D						
404.	1/2	The workstation shall provide the capability to allow Permitted users to specify search space	D						
405.	1/2	The workstation shall provide the capability to allow Permitted users to specify finger number	D						
406.	1/2	The workstation shall provide the capability to allow Permitted users to specify if print is a finger or a palm	D						
407.	1/2	The workstation shall provide the capability to allow Permitted users to specify finger position or palm type	D						
408.	1/2	The workstation shall provide the capability to allow Permitted users to retrieve demographics and criminal history of any candidate	D						
409.	1/2	A Permitted User of a workstation shall be provided the capability to get the next candidate automatically	D						
410.	1/2	The system shall provide the capability to return the top n candidates to the submitting users results Queue	D						
411.	1/2	The system shall provide the capability to notify submitters that a search has been completed	D						
412.	1/2	The notification shall identify which search has been completed	D						
413.	1/2	A Permitted User of a workstation shall be provided the capability to display a resulting candidates prints and demographics	D						
414.	1/2	A Permitted User of a workstation shall be provided the capability to display resulting candidates on a split screen with one screen containing the submitted print	D						
415.	1/2	The image shall highlight all characteristics encoded on displayed prints	D						

416.	1/2	The image shall indicate all characteristics that matched submission on displayed prints and submission if displayed	D						
417.	1/2	A Permitted User of a workstation shall be provided the capability to overlay submitted image over candidate image and recognize each	D						
418.	1/2	A Permitted User of a workstation shall be provided the capability to indicate a candidate is a match	D						
419.	1/2	The system shall provide the capability to send submission and match to Verification Queue	D						
420.	1/2	A Permitted User of a workstation shall be provided the capability of printing images and data with a resolution of 1000dpi	D						
421.	1/2	A Permitted User of a workstation shall be provided the capability of creating latent characteristics matching charts to present images for submission and explanation in court	D						
422.	1/2	A Permitted User of a workstation shall be provided the capability of displaying any image at the size of the original image	D						
423.	1/2	The Identification Technician\Latent Print Examiner shall be able to save a transaction in the state one was working on it	D						
424.	1/2	The Identification Technician\Latent Print Examiner shall be able to view biographic data and image for the subjects of input transactions and for search candidates.	D						
425.	1/2	The Identification Technician\Latent Print Examiner shall be able to search for a specific transaction by SF#	D						
426.	1/2	The Identification Technician shall be able to view reasons that a transaction was sent for post encoding review. These reasons shall include, but not be limited to: Pattern mismatch, poor coder scores, plain image segmentation errors, sequence errors, and prior Identification Technicians' selected reasons. Reasons shall be as specific as possible.	D						
427.	1/2	The Identification Technician shall have the ability to move plain image segmentation boxes and re-launch a sequence check once this has been done.	D						

428.	1/2	The system shall display all 14 images (ten rolls and four plain boxes) at the initial acquisition screen, when applicable.	D						
429.	1/2	Segmentation boxes shall be displayed based on the systems best attempt at segmentation. Identification Technicians shall have the ability to move and/or rotate all segmentation boxes and to resize the plain image boxes, when applicable.	D						
430.	1/2	The Identification Technicians shall have the ability to input fingerprint patterns and visual quality assessments throughout the acquisition process.	D						
431.	1/2	The Identification Technicians shall have the ability to send a transaction to an "acquisition supervisor queue" with a required selected reason. The reasons will be provided in a list from SFPD.	D						
432.	1/2	Identification Technicians have the same functionality from the "acquisition supervisor queue" as the acquisition examination queue.	D						
433.	1/2	The Identification Technicians shall have the option to view specific biographic data on a separate screen. These fields shall include but not be limited to: • TCN, • image override indicators from contributors, • Contributor ORI, • Date Received, • Name, • Date of Birth, • Sex, • Resubmission Indicator, • Signature image.	D						
434.	1/2	The Latent Print Examiner shall have the option to view specific data. These fields shall include but not be limited to: Case Identifier and Original Latent Print Examiner ID.	D						
435.	1/2	Latent Examiners shall have the ability to view all or selected portions of a Latent print.	M						

436. 1/2	Latent Examiners shall have 360 degree image orientation capability.	M								
Priority										
437. 1	The system shall provide the capability for the users to set priorities on print searches.	M								
438. 1	The system shall provide the capability to prioritize all print searches with a priority that has a minimum numerical range of from 1-10	M								
439. 1/2	The system shall provide the capability to permit the following types of searches to have priorities: latent search, civil/applicant search, authentication search, and criminal search. (A single priority field may be used for all priorities if the system can allow the user the capability and flexibility to set the individual priorities independent of the general priority and to be able to have an individual priority greater than or equal to other print priorities in system at that time).	M								
440. 1/2	The system shall provide the capability to provide priority for FBI latent submission.	M								
441. 1/2	The FBI Latent priority shall not be the same field as Search Priority.	M								
442. 1/2	This FBI Latent priority shall comply with the FBI standards for latent Priority.	M								
443. 1/2	The system shall provide the capability to prioritize all batches of print searches with a single priority which has a minimum numerical range from 1 to 10	M								
444. 1/2	The system shall select the next print to search based upon its priority and the oldest time of arrival	M								
445. 1/2	The system shall provide the capability for Permitted Users to set priorities on print searches.	M								

446.	1/2	The system shall provide the capability for the default values of the priority field to be system configurable	D							
447.	All	The system shall provide the capability for Permitted Users to modify the default values of Priority	D							
448.	All	The AFIS Administrator/Permitted User shall be capable of extending individual users the privilege of setting the priority field for searches	D							
449.	All	Permitted Users may set the priorities available to individual users i.e. the range permitted for one user may be different from another	D							
450.	1/2	If the priority is not set for a print search, the system shall search the print at the lowest priority and prioritized by time of arrival	D							
451.	1/2	The system shall provide the capability to independently prioritize latent prints with an AFIS search priority that has a minimum numerical range from 1 to 50. The range shall be configurable by the AFIS Administrator. This priority shall be independent of the priority for other types of print searches. (A single priority field may be used for latent and other prints if system can allow the user the capability to set the latent priority independent of the general priority and to be able to have latent priority greater than or equal to other print priorities.)	D							
452.	1/2	The system shall provide the capability to independently prioritize civil/applicant prints with a priority that has a minimum numerical range from 1 to 10. (As in the case of other priorities, a single priority field may be used for applicant and other prints if system can allow the user the capability to set the applicant priority independent of the general priority and to be able to have applicant priority greater than or equal to other print priorities running at that time.)	D							
453.	1/2	The system shall provide the capability to independently prioritize criminal 10print prints with a priority that has a minimum numerical range from 1 to 20. (As in the case of other priorities, a single priority field may be used for criminal and other prints if	D							

		system can allow the user the capability to set the criminal priority independent of the general priority and to be able to have criminal priority greater than or equal to other print priorities running at that time)							
454.	1/2	The system shall provide the capability to independently prioritize authentication prints with a priority that has a minimum numerical range from 1 to 5. (As in the case of other priorities, single priority field may be used for authentication and other prints if system can allow the user the capability to set the authentication priority independent of the general priority and to be able to have authentication priority greater than or equal to other print priorities running at that time)	D						
455.	1/2	The system shall provide the capability to independently prioritize the following classes of prints for searching as a class:	D						
456.	1/2	latent search, civil/applicant search, authentication search, training and criminal search.	D						
457.	1/2	The system shall provide the capability for the AFIS Administrator/Permitted User to change the priority of those prints or batches that are in the In process Queues	D						
458.	1/2	The system shall provide the capability for the AFIS Administrator/Permitted User to change only the priority of those prints or batches that are in the In process Queues	D						
459.	1/2	The system shall provide the capability to independently prioritize Training prints with a priority that has a minimum numerical range from 1 to 5. (As in the case of other priorities, single priority field may be used for Training and other prints)	D						
	Workflow								
460.	All	The system shall provide the capability to automatically manage workflow	M						
461.	All	The system shall provide the capability of running searches unattended and automatically	M						

462.	All	The system shall provide the capability to automatically extract characteristics from rolled images	M						
463.	All	The system shall provide the capability to automatically extract characteristics from flat images	M						
464.	All	The system shall provide the capability to automatically extract characteristics from palm images	M						
465.	All	The system shall provide the capability to automatically store characteristics from rolled images	M						
466.	All	The system shall provide the capability to automatically store characteristics from flat images	M						
467.	All	The system shall provide the capability to automatically store characteristics from palm images	M						
468.	All	The system shall provide the capability to automatically submit Tenprint searches	M						
469.	All	The system shall provide the capability to automatically determine the number of prints from one subject to use for a search	M						
470.	All	The system shall provide the capability to automatically determine which prints from one subject to use for a search	M						
471.	All	The system shall provide the capability to automatically determine the order in which to search a subjects prints	M						
472.	All	The system shall provide the capability to automatically move print to the next stage of processing	M						
473.	All	The system shall provide the capability to automatically include all associated items necessary for the next stage processing of the print	M						
474.	All	The system shall provide the capability to automatically skip the verification stage of processing for prints identified as autoident	D						
475.	All	The system shall provide the capability to automatically skip the verification stage of processing when the system is in autoident mode	D						
476.	All	The system shall provide the capability to automatically allow training prints submitted for search to search on the training	D						

		search space							
477.	All	The system shall provide the capability to automatically prevent training prints submitted for search to search on non training search spaces	D						
478.	All	The system shall provide the capability to automatically search the next preferred Search space until either a match is found or the entire criminal submission search space has been searched if the selected search space does not yield a match	D						
479.	All	The system shall provide the capability to determine whether a print has been submitted for search	M						
480.	All	The system shall provide the capability to determine whether a submitted print has begun the search process	D						
481.	All	The system shall provide the capability to determine whether a submitted print has completed its search process	M						
482.	All	The system shall provide the capability to determine whether a print has been submitted for Verification	M						
483.	All	The system shall provide the capability to determine whether a submitted print has begun the Verification process	M						
484.	All	The system shall provide the capability to determine whether a submitted print has completed its Verification process	M						
485.	All	The system shall provide the capability to report to Permitted Users which of the six stages (submitted, begun search, completed search, submitted to verification, begun verification, or completed verification) a submission is in	D						
486.	All	The system shall provide the capability to search prints automatically against full specified (default or Permitted User specified) search space	M						
487.	All	The system shall provide the capability to control the submissions to the matchers to balance the load such that the average load over 20 minutes on a search engine segment is not greater than 50% of load on other segments	D						
488.	All	The system shall provide the capability to allow permitted users to determine/set which fingers will be used for tenprint searching	D						

489.	All	The system shall provide the capability to allow Permitted Users to move work in Users' Work Queues to other Users' Work Queues	D						
490.	All	The system shall provide the capability to allow Permitted Users to specify which type of print (civil/applicant or criminal) shall be processed without verification	D						
491.	All	The system shall provide the capability to allow Permitted Users to specify a percentage of fingerprints/fingerprint types that may be processed without verification	D						
492.	All	The system shall provide the capability to automatically indicate which prints need verification based upon a percentage of fingerprints/fingerprint types that may be processed without verification	D						
493.	All	The system shall provide the capability to automatically forward notifications and messages to designated individuals currently logged into the system	D						
494.	All	The system shall provide the capability to automatically queue notifications and messages to designated individuals currently not logged into the	D						
495.	All	The system shall provide the capability to locate work in progress based on System ID number or Subject name, DOB, sex	D						
496.	All	The system shall provide the capability to provide the ability for Permitted Users to view any work in progress	D						
497.	All	The system shall provide the capability to provide the ability for Permitted Users to view the complete history of a work item including but not limited to: the date of arrival of the work item, all individuals who worked on the item, their role, the task they performed, their Service, the start and end time the item was assigned to them, the total actual time spent working on the item, the status changes of the work item and their associated dates and time	D						
498.	All	The system shall provide the capability to direct all errors to an error resolution workstation	D						

499.	All	The system shall provide the capability to automatically deliver information requested by Permitted Users directly to the user	D						

Search Spaces

This section deals with that portion of the print database that is searchable and under what conditions. A search space is a general term independent of how data is stored, organized etc. That is the reason the section uses the term search space rather than a more concrete term. It details what can be in a search space, how it can be subdivided, who can operate with it and under what conditions.

General

500.	All	The system shall provide the capability to allow multiple search spaces	M						
501.	All	The system shall provide the capability to allow individual search spaces to be joined by the equivalent of database Union or Join	D						
502.	All	The data in the search space shall consist of the characteristics or features necessary to perform a print search along with a pointer/key to the remaining images and data associated with the print	D						
503.	All	The system shall provide the capability to demographically delimit any search space e.g. all criminal prints that are male between 18-30 years of age	D						

Criminal

504.	1/2 / 3	The system shall provide the capability to allow for a Criminal search space	D						
505.	1/2 /3	The system shall provide the capability to allow the criminal search space to be composed of subsets each of which shall be a separate search space	D						

506.	1/2 /3	The system shall provide the capability to allow the following subsets of the criminal search space • rolled prints of each finger • flat prints of each finger • composite prints of each finger • flat palms of each hand • palm edges of each hand	D							
Unsolved Latent Files										
507.	1/2	The system shall provide the capability to allow for a ULF search space	D							
508.	1/2	The system shall provide the capability to allow the ULF search space to be composed of subsets each of which shall be a separate search space	D							
509.	1/2	The system shall provide the capability to allow the following subsets of the ULF search space • Quality latents • Nonquality latents	D							
510.	1/2	The system shall provide the capability to delimit ULF search spaces by Latent case ID	D							
Civil/Applicant										
511.	1/2	The system shall provide the capability to allow for a Civil/Applicant search space	D							
512.	1/2	The system shall provide the capability to allow the Civil/Applicant search space to be composed of subsets each of which shall be a separate search space	D							
513.	1/2	The system shall provide the capability to allow the following subsets of the Civil/Applicant search space • rolled prints of each finger	D							

		• flat prints of each finger							
		Authentication Authentication typically deals with comparing a search print against a known print to determine if they are the same subject in a lights out scenario. In a small search space, it may just ask to compare the print against all the subjects in the space and determine if it is an ident in a lights out mode. This is often done to authenticate a user for logon, allow access to a building etc.							
514.	1/2	The system shall provide the capability to allow for multiple Authentication search spaces	M						
515.	1/2	The system shall provide the capability for the User to be able to specify a maximum of 50 Authentication search spaces	D						
516.	1/2	The system shall provide the capability for each Authentication search space to be composed of 1-n flat/rolled prints	D						
517.	1/2	The default value for n is configurable	D						
518.	1/2	The system shall provide the capability to allow Permitted Users to specify n	D						
519.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying n	D						
520.	1/2	The default specification of which finger/fingers to allow for an Authentication search space is configurable	D						
521.	1/2	The system shall provide the capability to allow Permitted Users to specify which finger/fingers are to be allowed for an Authentication search space	D						
522.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying which finger/fingers are to be allowed for an Authentication search space	D						
523.	1/2	The system shall provide the capability to allow each Authentication search Space that is not included in existing criminal or civil search spaces to contain a maximum of 1000 subjects' prints.	D						

524.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the Authentication search spaces	D							
525.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the ID/subject name, DOB of all subjects prints in a search space	D							
526.	1/2	The system shall provide the capability to prevent the addition of duplicate sets of prints for a subject with the same ID/subject name, DOB	D							
527.	1/2	The workstation shall include a Livescan device/devices that has the capability to collect one or more rolled/flat fingerprints	D							
528.	1/2 / 8	The Livescan device shall collect images at a minimum of 500dpi	D							
529.	1/2 / 8	The workstation shall provide the capability to operate in an enrollment mode and an authentication mode	D							
530.	1/2	The default mode of a workstation shall be configurable	D							
531.	1/2	The workstation shall provide the capability to allow Permitted Users to set the mode of the workstation	D							
532.	1/2	The workstation shall provide the capability to perform enrollment when in enrollment mode	D							
533.	1/2	The workstation shall provide the capability to automatically add prints to a specific search space in enrollment mode	D							
534.	1/2	The workstation default search space shall be configurable	D							
535.	1/2	The workstation shall provide the capability to perform automatic authentication when in authentication mode	D							
536.	1/2	The workstation shall provide the capability to automatically search a specified search space when in authenticate mode	D							
537.	1/2	The workstation shall provide the capability to automatically include the priority with the search print	D							

538.	1/2	The workstation shall provide the capability to include the stored search priority if user does not provide a priority	D							
539.	1/2	The workstation shall provide the capability to store the search priority locally	D							
540.	1/2	The workstation shall provide the capability to allow Permitted Users to specify priority for a specific print	D							
541.	1/2	The workstation shall provide the capability to display priorities available to the Permitted User	D							
542.	1/2	The default search priority of a workstation shall be configurable	D							
543.	1/2	The workstation shall provide the capability to allow Permitted Users to specify a search space	D							
544.	1/2	The workstation shall provide the capability to allow Permitted Users to add prints to a search space	D							
545.	1/2	The workstation shall provide the capability to prevent the addition of prints unless in enrollment mode or requested by a Permitted User	D							
546.	1/2	The system shall provide the capability to set workstation to "authenticate only" mode	D							
547.	1/2	"Authenticate only" mode shall be a configurable item	D							
548.	1/2	The system shall provide the capability to notify the workstation whether a print is authenticated or not at the conclusion of the authentication search	D							
	Special Search Spaces									
549.	All	The system shall provide the capability to allow for multiple Special search spaces	D							
550.	All	The system shall provide the capability for the User to be able to specify a maximum of 50 Special search spaces	D							
551.	1/2	Each Special search space shall be composed of 1-n flat/rolled prints	D							

552.	1/2	The default value for n shall be configurable	D							
553.	1/2	The system shall provide the capability to allow Permitted Users to specify n	D							
554.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying n	D							
555.	1/2	The system shall provide the capability to allow Permitted Users to add prints to Special search spaces	D							
556.	1/2	The system shall provide the capability to prevent Users without proper privilege from adding prints to Special search spaces	D							
557.	1/2	The system shall provide the capability to allow permission for access to Special search spaces to be granted on individual Special search spaces	D							
558.	1/2	The system shall provide the capability to allow each Special search Space that is not included in existing criminal or civil search spaces to contain a maximum of 10000 subjects' prints.	D							
559.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the Special search spaces	D							
	Training									
560.	All	The system shall provide the capability to allow for a tenprint training search space	D							
561.	All	The system shall provide the capability to allow for a latent training search space	D							
562.	All	The system shall provide the capability to allow for a image quality training search space	D							
563.	All	Each tenprint search space shall be composed of 1-n flat/rolled prints	D							
564.	All	The default value for n is configurable	D							
565.	All	The system shall provide the capability to allow Permitted Users to specify n	D							

566.	All	The system shall provide the capability to prevent non Permitted Users from specifying n	D						
567.	All	The system shall provide the capability to allow Permitted Users to add/delete prints to training search spaces	D						
568.	All	The system shall provide the capability to prevent Users without proper privilege from adding/deleting prints to training search spaces	D						
569.	All	The system shall provide the capability to allow each Training search Space to contain a maximum of 10000 subjects' prints	D						
570.	All	The system shall provide capability to prevent the addition of training prints to non training search spaces	D						
571.	All	The system shall provide the capability to allow Permitted Users to generate IDs and demographics to be associated with a subjects prints	D						
572.	All	The system shall provide the capability to allow Permitted Users to generate unique IDs for multiple instances of same subjects prints	D						
573.	All	The system shall provide the capability to allow Permitted Users to generate same IDs for multiple subjects prints	D						
574.	All	The vendor shall provide all maintenance, enhancement and training of SFPD staff for 2 years after SFPD accepts system	D						
575.	All	The system shall provide the capability of allowing training from any workstation	D						
576.	All	The system shall provide the capability to determine that an operator is a trainee by User ID at logon	D						
577.	All	The system shall provide the capability of providing trainees the full functionality of the workstation class they are privileged to work on	D						
578.	All	The system shall provide the capability of limiting access of trainee processing to training search spaces and training prints only	D						
579.	All	The system shall provide the capability of controlling workflow to ensure that training prints are routed to trainees for a designated	D						

		process							
580.	All	The system shall provide the capability of controlling workflow to stop processing a training print at any process step	D						
581.	All	The system shall provide the capability to allow Permitted Users to specify processing steps allowed for a print	D						
582.	All	The system shall provide the capability of controlling workflow to ensure that non training prints are prevented from being routed to trainees	D						
583.	All	The system shall provide the capability of controlling workflow to allow training prints to search training search spaces	D						
584.	All	The system shall provide the capability of controlling workflow to ensure that training prints never search non training search spaces	D						
585.	All	The system shall provide the capability of controlling workflow to prevent non training prints from searching training search spaces	D						
586.	All	The system shall provide the capability to allow Permitted Users to submit training prints as submission prints	D						
587.	All	The vendor shall provide special training on techniques and strategies for entering minutia and any other user input characteristic	D						
	Configuration management								
588.	All	The system shall provide CM for Hardware and software System Environment	D						
589.	All	The system shall limit the AFIS Administrators to be the only users capable of setting configurable items	D						
	Miscellaneous								
590.	All	The system shall be capable of processing any type of print search 7 days each week 24 hours per day.	D						
591.	All	The system shall provide the capability to allow Permitted users to select and retrieve the data saved from individual workstations	D						

		along with date, time, and operator who created data							
592.	All	The system shall provide the capability to perform all fingerprint related database operations and searches without error when cardprint images are missing particular prints such as amputations etc.	M						
593.	All	The system shall provide the capability to decompress compressed images	M						
594.	All	The system shall provide the capability to request a print that has already been searched to be searched again without reentering data	D						
595.	8	The system shall provide the capability to allow Permitted Users to determine/set how many fingers must pass the image quality test before requesting a rescan of the prints at a Livescan device for image quality checking	D						
596.	All	The default value for the number of fingers is configurable	D						
597.	8	The system shall provide the capability to allow Permitted Users to determine/set which specific fingers must pass the image quality test before requesting a rescan of the prints at a Livescan device for image quality checking	D						
598.	All	The default value for which fingers is configurable	D						
599.	All	The system shall convert and store images in compliance with FBI and NIST image quality standards	D						
600.	All	The system shall assign a unique identifier to each print entering the system	D						
601.	All	The system shall provide the capability to store unknown deceased prints	D						
602.	All	The system shall provide the capability to identify unknown deceased prints as such	D						
603.	All	The system shall provide the capability to group any set of searches into batches that can be tracked as an entity	D						

604.	All	The system shall provide the capability to send a notification to the submitter when one of the prints in a batch has begun search processing.	D							
605.	All	The system shall provide the capability to send a notification to the submitter when all the prints in a batch have completed search processing	D							
606.	All	The system shall provide the capability to allow threshold values for each operators work queue	D							
607.	All	The system shall provide the capability to allow Permitted Users to set the threshold values	D							
608.	All	The default value for the threshold values is configurable	D							
609.	All	The system shall provide the capability to notify AFIS administrators when an operator work queue reaches its threshold.	D							
610.	All	The system shall provide the capability to retain work destined for work queues that have reached their threshold	D							
611.	All	The AFIS Administrator shall be provided the capability to determine where to retain work destined for work queues that have reached their threshold	D							
612.	All	The AFIS Administrator shall be provided the capability to redistribute retained work destined for work queues that have reached their threshold	D							
613.	All	The system shall provide the capability to retain search results until submitter acknowledges they have completed current activities	D							
614.	All	The system shall provide the capability to archive search results	D							
615.	All	The system shall provide the capability to allow Permitted Users to generate any allowable text for any demographic field of any subjects prints	D							

		Miscellaneous Search Space Requirements								
616.	1/2	The system shall provide the capability to limit which search spaces are selectable by which permitted user	D							
617.	1/2	The system shall provide the capability to automatically add criminal and civil/applicant correctly to either the criminal or civil/applicant search space	D							
618.	1/2	The system shall provide the capability to automatically add latents correctly to either the quality or nonquality latent search space	D							
619.	1/2	The system shall provide the capability to allow a Permitted user to specify which Authentication search space authentication prints should be added to	D							
620.	1/2	Prints may be selected from existing search spaces for addition to or inclusion in an Authentication search space	D							
621.	1/2	The system shall provide the capability to allow selected Livescan devices to be used for enrolling/adding prints to an Authentication search space	D							
622.	1/2	The system shall provide the capability to include specified non-criminal search spaces or special search spaces as search space for automatic search of new criminal prints	D							
		Data Integrity								
623.	All	The system shall provide capability to prevent data/images from being lost including during conversion	M							
624.	All	The system shall provide capability to prevent legacy data from being corrupted including during conversion	M							
625.	All	The system shall provide capability to ensure legacy converted data correctly represents the original data	M							
		Recovery								

626.	All	The system shall provide capability to continue operation with single failures in a degraded but still viable operational but somehow degraded mode	M						
627.	All	The system shall provide capability to recover from a disaster within 24 hours in degraded mode	D						
628.	All	Upon recovery, the system shall provide capability to automatically restart transactions in process at time of failure	D						
	System Administration								
629.	All	AFIS administrator can perform software upgrades to workstations from central site	D						
630.	All	Vendor shall provide on site support during development and maintenance	D						
	Standards All AFIS components shall be designed to meet the following public standards								
631.	All	FBI WSQ Gray-Scale Image Compression Specification (IAFIS-IC-001v2, February 16, 1993).	M						
632.	All	ANSI Standard, Data Format for the Interchange of Fingerprint, Facial, and Scar-Mark-and-Tattoo (SMT) Information (ANSI/NIST-ITL 1-2007).	M						
633.	All	The fingerprint, Palmprint, latent features shall be in the ANSI/NIST CDEFFS open standard format and accessible by SFPD	M						
634.	All	FBI Electronic Fingerprint Transmission Specification (EBTS) (IAFIS-DOC-01078-8.002 APRIL 1, 2008), including Appendix F image quality specifications.	M						
635.	All	FBI NCIC CJIS WAN Protocol Specification and IAFIS telecommunications standards that specify use of TCP/IP, availability of FTP, and X.25 capability	M						
636.	All	All data transmitted external to AFIS shall be in ANSI NIST and FBI EBTS	M						

637.	All	The system shall use latest EBTS version compatible with FBI	M						
		System Privileges This section deals with requirements related to privileges that are available to various users and how the system grants and denies privilege. Privilege deals with granting permission to perform processes.							
638.	All	The system shall provide capability to limit the SFPD users access rights to only the workstation functions that they are privileged to perform work on.	D						
639.	All	Access rights shall determine the functionality of the user of the individual workstation	D						
640.	All	The system shall provide the capability to grant access rights by privilege, proper identification and authentication	D						
641.	All	The system shall provide the capability to authenticate based upon ID and password	D						
642.	All	The system shall provide the capability to authenticate based upon biometric authentication	D						
643.	All	The system shall provide the capability to provide privileged functions based upon user type(e.g. latent supervisor, latent examiner, exception handler etc) with the AFIS Administrator being the most privileged	D						
644.	All	The system shall provide the capability to limit search submissions to "Designated Users"	D						
645.	All	The system shall provide the capability to accept search submissions from "Designated Users"	D						
646.	All	Designated Users shall be a configurable item	D						
647.	All	The system shall provide the capability for Permitted Users to set Designated User for a particular search.	D						
648.	All	The system shall provide the capability to distinguish Designated Users by ID and Authentication	D						

649.	All	The system shall provide the capability to limit Designated Users to be SFPD designated personnel or SFPD designated external agencies	D						
	Throughput Performance								
	This section deals with the speed at which processes can be performed. Speed is very dependent upon workload. Due to lack of workload details over other time periods, the requirements are based upon average weekly workloads. workloads specified in the workload section. The requirements also specify the frequency of highest priority prints to be no more often than one highest priority print every 6 minutes.								
	Workload Restrictions								
	For all throughput performance measurements and calculations only the following workload restrictions apply:								
650.	1/2	highest priority prints shall not constitute more than 10% of the workload	D						
651.	1/2	highest priority prints shall not occur more frequently than every 6 minutes	D						
652.	1/2	Each identity search requirement shall be tested in independent tests. That is, for example, highest priority will occur only on tenprints during one test and only on latents in another independent test	D						
653.	1/2	Ad hoc image requests shall not constitute more than 5% of the total image requests	D						
654.	1/2	Ad hoc image requests shall not occur more frequently than every 5 minutes	D						
655.	1/2	Search times shall be measured from the time that a search enters the AFIS portion of the system until the results are returned out of the AFIS portion of the system	D						
656.	1/2	Image retrieval time shall be measured from the time the user requests an image until the image is displayed on the users	D						

		screen							
657.	1/2	**Tenprint-Tenprint** - The system shall complete the search of a tenprint or palm print that has the highest priority set in less than 10 minutes 95% of the time averaged over an average one week workload specified in this document on a database of 500,000 subjects.	D						
658.	1/2	**Latent finger** The system shall complete the search of a latent print that has the highest priority set in less than 2 hours 95% of the time averaged over an average one week workload on a database of 500,000 subjects	D						
659.	1/2	**Latent flat Palm** The system shall complete the search of a latent print that has the highest priority set in less than 2 hours 95% of the time averaged over an average one week workload on a databaseof10,000 subjects	D						
660.	1/2	**Authentication** The system shall complete the search of a print for authentication in less than 13 second 95% of the time averaged over one week workload on a database of 500 subjects	D						
661.	1/2	**Image Retrieval** • The system shall complete the display of a match candidate image in less than 1 second of requesting image averaged over an average one week workload on a database of 600,000 subjects • The system shall complete the display of an image associated with an ad hoc image request in less than 1 minute after requesting the image averaged over 1000 ad hoc requests against a database of 600,000 subjects • The system shall complete the display of a match candidate image from digitized microfilm in less than 1 second of requesting image averaged over 1000 images requested on a database of 500,000 subjects.	D						

		Performance Monitoring									
662.	All	The system shall provide the capability for providing statistics on Users and the system. Statistics shall include: • number of verifications • search time • number of latents searched • number of latents encoded • number of criminal searches • number of civil/applicant searches • number of prints added to search space • response time • quality of print images • court documents prepared • number of prints allocated to a particular priority • percentage of correct matches • size of search spaces • demographics of hits • network performance System Administration • processor performance System Administration • storage performance System Administration • unauthorized access attempts • time spent in queues	D							
663.	All	The system shall provide the capability for providing these statistics in terms of average, minimum, and maximum	D							
664.	All	The system shall provide the capability for providing these statistics over specified time period	D							
665.	All	The system shall provide the capability for providing these statistics over specified search spaces	D							

666.	All	The system shall provide the capability for providing these statistics over specified fingers or palms	D							
667.	All	The system shall provide the capability for providing these statistics for a specified user or class of user	D							
668.	All	The system shall provide the capability for providing these statistics over specified demographics	D							
669.	All	The system shall provide the capability for providing the above statistics for the following specified search types • tenprint(1-n fingers) • latent • latent palm • FPID (Fixed Post identification) • authentication	D							
Search This section deals with requirements related to the actual search process where a print is compared to other prints in a search space to determine if it is a candidate or an ident. That is, does it match or not and with what confidence										
670.	All	System shall provide the capability to maintain selected non-criminal prints that comprise a separate search space.	D							
671.	All	The system shall provide the capability to allow Permitted Users to select non criminal prints or types of prints to be maintained	D							
672.	All	The system shall provide the capability to prevent the selection of non criminal prints or types of prints to be maintained by non Permitted Users	D							
673.	All	The system shall provide the capability to allow the Permitted Users to specify the search space sequence. e.g. M/F, 1 print then 2 print then 8 prints etc	D							
674.	All	The system shall provide the capability to maintain selected prints in search spaces called "special". Typical user would be latent examiner or authentication search spaces such as DOC for holds or other user authentication, deceased, expunged etc .	D							

675.	All	The system shall provide the capability to prevent non Permitted Users to searches on the non-criminal search space	D							
676.	All	The system shall provide the capability to accept search space delimiters when a print is submitted for a Search to AFIS.	D							
677.	All	If delimiters are not set by search request, the system shall provide the capability to set the search space delimiters to default values when a print is submitted for a Search to AFIS.	D							
678.	All	The default value of the delimiter shall be configurable (A typical default value would be the full criminal search space)	D							
679.	1/2	The system shall provide the capability to search rolled prints	M							
680.	1/2	The system shall provide the capability to search flat prints	M							
681.	1/2	The system shall provide the capability to search palm prints	M							
682.	1/2	The system shall provide the capability to search latent prints	M							
683.	1/2	The system shall provide the capability to add all prints from each arrests to criminal search space	D							
684.	1/2	The system shall provide the capability to link prints to a particular arrest	D							
685.	1/2	The system shall provide the capability to allow Permitted Users to identify as deleted or delete prints from the search space	D							
686.	1/2	The system shall provide the capability to prevent users who are not Permitted Users to identify as deleted or delete prints from the search space	D							
687.	1/2	System shall provide the capability to retain prints but identify them as deleted	D							
688.	1/2	System shall provide the capability for Permitted Users to delete prints	D							
689.	1/2	The system shall provide the capability to specify what valid subsets of the search space shall be searched against	D							
690.	1/2	The system shall provide the capability to identify a "training"	D							

		fingerprint and not enter it into any non training search space							
691.	1/2	The system shall provide the capability to allow Permitted Users to add prints as training prints to training search spaces	D						
692.	1/2	The system shall provide the capability to store prints in a non-searchable database	D						
693.	1/2	The system shall provide the capability to allow Permitted Users to designate particular Livescan devices for Authentication searches	D						
694.	1/2	The system shall provide the capability to automatically perform an authentication search from Livescan workstations designated as Authentication workstations	D						
695.	8	The system shall provide the capability to allow Permitted Users to designate particular Livescan devices for identification searches	D						
696.	8	The system shall provide the capability to automatically perform an identification search from Livescan workstations designated as submission workstations	D						
697.	All	The system shall provide the capability to index/key/point from the characteristics of a print to the images, text, and other data associated with a subjects prints	D						
Security									
698.	All	Authentication security shall be provided by a password-based logon access control system.	D						
699.	All	The system shall provide the capability to maintain an audit trail including user ID, date, terminal, and time of all logons and attempted logons	M						
700.	All	The system shall provide the capability to maintain an audit trail of all data additions, modifications, or deletions including user ID, date, and time of entry.	M						

701.	All	The system shall provide the capability to allow modification of the User's Security Files by AFIS Administrator or other Permitted users.	D							
702.	All	The system shall provide the capability to prevent changes to terminal access limitations by non Permitted users	D							
703.	All	The system shall provide the capability to limit access to use of its AFIS to specific designated sites/systems	D							
704.	All	The site/systems access list is configurable	D							
705.	All	The system shall provide the capability to allow Permitted Users to specify which designated sites/systems individuals have access to	D							
706.	All	The system shall provide the capability to log users off after n minutes of inactivity,	D							
707.	All	n shall be configurable	D							
708.	All	The system shall provide the capability to ensure that the disposition fingerprint match process should find the same match candidates as the arrest fingerprint match process..	D							
	Preparation for Search									
709.	1/2 / 3	The system shall provide the capability for Permitted Users to select any single print by any unique print ID number maintained by the system accompanied by finger or palm number	D							
710.	1/2 /3	The system shall provide the capability for Permitted Users to select any set of prints by any unique print ID number maintained by the system	D							
711.	1/2 /3	The system shall provide the capability for a Permitted User to enhance images and manipulate images	D							
712.	1/2 /3	The system shall provide the capability for a Permitted User to enter minutia and any other manually entered characteristics required or allowed by vendor	D							

713.	1/2 /3	The system shall provide the capability for a Permitted User to enter minutia quality	D						
714.	1/2 /3	The system shall provide the capability for potential match candidates that result from a latent search to be sent to each submitters queue	D						
715.	1/2 /3	The system shall provide the capability for potential match candidates that result from a latent search to be retained in the system	D						
716.	1/2 /3	The system shall provide the capability for potential match candidates that result from a latent search to be associated with the latent case ID	D						
717.	1/2 /3	The system shall provide the capability for potential match candidates that result from a latent search to be to be deleted when the latent case is closed	D						
718.	1/2 /3	The system shall provide the capability to prevent the potential match candidates that result from a latent search to be to be deleted until the latent case is closed	D						
719.	1/2 /3	The system shall provide the capability to display the potential match candidates on personal submitter queues	D						
720.	1/2 /3	The system shall provide the capability to display original submitted print and a potential match print simultaneously on a split screen	D						
721.	1/2 /3	The system shall provide the capability to allow a Permitted User to indicate that a potential matching print is an ident	D						
722.	1/2 /3	The system shall provide the capability to allow a Permitted User to delete a potential matching print from their list of potential matching prints on the personal submitter queue	D						
723.	1/2	The system shall provide the capability to automatically search idents against ULF(called a reverse search)	M						
724.	1/2	The system shall provide the capability to automatically return	M						

	/3	candidates and associated information that exceed threshold for a reverse search to the submitters candidate queues/contributing agencies candidate queues							
725.	1/2 /3	The system shall provide the capability to automatically notify submitters/contributing agencies when a candidate is found for a latent during a reverse search	M						
726.	1/2 /3	The system shall provide the capability to prevent a non Permitted User to view personal queues	D						
727.	1/2 /3	The system shall provide the capability to allow Permitted Users to display results of searches by requesting specific results by any search print ID maintained by the system	D						
728.	1/2 /3	The system shall provide the capability to allow Permitted Users to display results of searches by scrolling on a personal queue and clicking on the desired print	D						
729.	1/2 /3	The system shall allow Permitted Users to display the results of searches on personal submitter queues by requesting the next print on the queue	D						
730.	1/2 /3	The system shall provide the capability for Permitted Users to display any single print by any unique print ID number maintained in the system accompanied by finger number or palm type	M						
731.	1/2 /3	The system shall provide the capability for Permitted Users to display any set of prints by any unique print ID number maintained by the system	M						
732.	1/2 /3	The system shall provide the capability to allow Permitted Users to display images associated with a latent case by requesting any Latent ID maintained by the system	M						
733.	1/2 /3	The system shall provide the capability to allow Permitted Users to display the image of a latent submission and the print of the associated potential matches.	M						
734.	1/2	The system shall provide the capability to allow Permitted Users to display associated images by requesting latent case	M						

	/3								
735.	1/2 /3	The system shall provide the capability to allow Permitted Users to indicate which latent prints have been eliminated from consideration as belonging to suspects	M						
736.	1/2	The system shall provide the capability to allow Permitted Users to indicate which latent prints belong to suspects	D						
737.	1/2	The system shall provide the capability to allow for the creation of an unsolved latent file (ULF). This file contains the prints and characteristics/features of latent prints (with connections to associated information).	M						
738.	1/2	The system shall provide the capability to automatically add prints belonging to suspects to the appropriate ULF	M						
739.	1/2	The system shall provide the capability to allow Permitted Users to select prints for addition to ULF or special search spaces.	M						
740.	1/2	The system shall provide the capability to allow the person or agency that contributed a print to the ULF to delete that print.	D						
741.	1/2	The system shall provide the capability to automatically remove a latent print from the ULF when a positive identification has been made with that print.	M						
742.	1/2	The system shall provide the capability to fuse the results of separately entered/stored latent characteristics and minutia into a composite of these characteristics and minutia	D						
743.	1/2	The system shall provide the capability to retain the fused set of characteristics identified as fused	D						
744.	1/2	The system shall provide the capability to identify the source characteristics from which the fused set was derived	D						
745.	1/2	The system shall provide the capability to allow Permitted Users to cancel i.e. delete from the queue, searches that are in the search request queue	D						
746.	1/2	The system shall allow the operator to change any search parameters and submit or resubmit the search without reentering print characteristics	D						

747.	All	The system shall provide the capability to allow Permitted Users to recall permitted latent prints and edit the characteristics of the print or associated data	D							
748.	All	The system shall provide the capability to periodically save users work	M							
749.	All	The periodicity shall be a configurable item measured in minutes	D							
750.	1/2	The system shall provide the capability to submit latent prints to the FBI for an FBI latent search via the appropriate SFPD protocol	M							
751.	1/2	The system shall provide the capability to store prints intended to be submitted to the FBI for latent searching in an FBI latent queue	D							
752.	1/2	The system shall provide the capability to automatically sort the FBI latent queue in priority order	D							
753.	1/2	The system shall provide the capability to submit the highest priority n prints from the FBI Latent Queue on a daily basis.	D							
754.	1/2	The daily number of prints, n, sent to the FBI shall be configurable .	D							
755.	1/2	The system shall provide the capability to submit the latents to the FBI at a specified time of day	D							
756.	1/2	The default time of submission of latents to the FBI shall be configurable	D							
757.	1/2	The system shall provide the capability to allow Permitted Users to specify time of day for submission to the FBI	D							
758.	1/2	The system shall provide the capability to allow Permitted Users to delete permitted prints from the FBI Queue	D							
759.	1/2	The system shall provide the capability to receive latent submission results from the FBI	D							
760.	1/2	The system shall provide the capability to automatically notify submitters and contributing agencies when the FBI returns an ident	M							
761.	1/2	The system shall provide the capability to automatically return FBI ident information to submitters and contributing agencies when the FBI returns an ident	M							

762.	1/2	The system shall provide the capability to automatically assign Latent Ids to latent prints	M						
763.	1/2	The system shall provide the capability to allow Permitted Users to assign a unique personal identifier to a latent print	M						
764.	1/2	The system shall provide the capability to notify the Submitter when a latent search is completed	M						
765.	1/2	The system shall provide the capability to notify the contributing agency when a latent search is completed	M						
766.	1/2	The value of any "quality" indicator shall not prevent the addition of a print to a search space	M						
767.	1/2	The system shall provide the capability to allow Submitters and other Permitted Users to indicate that a print is an ident for particular search print	M						
768.	1/2	The system shall return non contributor made Idents to the contributor's Queue	D						
		Image Storage(Primary Persistent image storage)							
769.	All	Persistent Image Storage should be on a separate server and should be stored in an Oracle Database to be compatible with SFPD data architecture	M						
770.	All	The system shall provide the capability to store digitized images from normal tenprint card sources i.e. Hard copy or Livescan called normal image storage	M						
771.	All	Palm and tenprint card source images scanned at 500 DPI shall be stored in image storage and shall only be stored at the system configurable compression ratio and with WSQ compression	M						
772.	All	Palm and tenprint card sources images scanned at 1000 DPI stored in image storage shall only be stored at the system configurable compression ratio and with JPEG 2000 compression	M						
773.	All	Iris and Latent fingerprints and latent Palms shall be stored in the image storage but in an uncompressed bmp/gif/png format	M						

774.	All	All monotone images shall be store in 8 bit grayscale	M							
775.	All	All color images shall be store in 24 bit color bitmap	M							
776.	All	The system shall provide the capability to allow Permitted Users to request images on an ad hoc basis	M							
777.	All	The system shall provide the capability to add images to normal image storage	M							
778.	All	The system shall provide the capability to delete or mark as deleted images from normal image storage								
779.	All	The system shall provide the capability to link the unique subject system ID, subjects and associated demographic data with all of the subjects print images	M							
780.	All	The system shall provide the capability to store the best composite record and up to three most recent bookings images of prints from each arrest for a subject	M							
Paper Conversion This section deals with requirements that deal with dealing with search requests that arrive on hard copy.										
781.	1/2	The system shall provide the capability to process search requests received as hard copy	M							
782.	1/2	Non Latent search requests on hard copy shall be sent to the paper conversion work station for digitizing of all hardcopy information	M							
783.	1/2	The system shall provide the capability to process search requests as part of a batch	M							
784.	1/2	Latent search requests on hard copy shall be sent to Latent section for processing	M							
785.	1/2	The system shall provide the capability to time stamp documents received	M							
786.	1/2	The system shall provide the capability to process documents in time received order	M							

787.	1/2	The system shall provide the capability to ensure no received document is lost at any point in the paper conversion process	M						
788.	1/2	The system shall provide the capability to ensure that any processing does not affect the integrity or usability of the data on the document	M						
789.	All	The system shall provide the capability to allow Permitted Users to enter text data	M						
790.	All	The system shall provide the capability to archive documents received	M						
791.	All	The system shall provide the capability to return documents to submitter	M						
Conversion of old prints This section deals with extracting the characteristics of the prints that already exist in the SFPD system.									
792.	All	All existing prints maintained as digital images compatible with NIST standards shall be converted to allow searches with the new system	M						
793.	All	The scanned images shall be decompressed at 15:1 using a certified WSQ compression algorithm	M						
794.	All	The decompressed images shall have the AFIS characteristics extracted.	M						
795.	All	The characteristics extracted during conversion shall be entered into the appropriate search space	M						
796.	All	During conversion, each subjects print images shall be compared against all others currently in the database to determine if there is a match	M						
797.	All	The match threshold during conversion shall be set to that of an autoident for matching	D						
798.	All	All matching subjects discovered during conversion shall be considered an Ident and consolidated.	D						